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A Few Norman Stones.

TWELVE years ago, *i.e.*, on Feb. 15, 1878, a circular was issued from Versailles by the Minister of Public Works to the members of a Committee (which was then appointed) to examine and report on the various kinds of stone in use or capable of being used on the roads in France. This Committee, composed of eight officers of superior rank in the department of the "Ponts et Chaussées," under the presidency of M. Graeff, an Inspector-General in that department, presented their report in 1880; and, as no great change in the relative value or condition of the varieties of stone then reported on can have occurred in the comparatively short period of ten years, we believe that a brief glance at that exhaustive compilation will be an appropriate preface to the further consideration of such varieties as might possibly be utilised with advantage in this country. The engineers employed on the roads of the different departments and arrondissements were directed to send samples to the Committee, with reports of their relative value, prepared on such a basis that uniformity was ensured in the computation of those values. The total number of samples so received amounted to no less than 2,414, but as this number appeared to be in excess of that which was really necessary, the Committee decided to select seven or eight varieties from each department, and they actually tested 637 samples, representing seventy varieties of stone.

We have prepared from the elaborate tables appended to that report, a list of the most important varieties, arranged according to their ascertained value for work, irrespective of price, into which we need not at present enter. Besides those now tabulated, there were a great many rounded gravels and pebbles brought under test, but the results recorded by the Deval machine ought not in fairness to have been brought into computation, as the loss by weight was, in consequence of the previous removal of all angles, naturally very slight in such stones.

The experiments carried out by this Committee were conducted with such scrupulous care that it forms the most valuable record possible to obtain of the actual value of such stones. The table below gives the averages and the aggregate of those averages for many samples; but, of course, in most classes a very great variation occurred between those which gave the best results and those which gave the worst. It will, however, be noticed that though flints and millstones head the list in column 5 (resistance to crushing), they only occupy the seventh and eighth places in order of merit, and that those stones which are reported as the best by the engineers who have used them, are also first in the order of merit in the combined laboratory tests. Quartz, porphyry, eurite, and the basalts, have all practically the same value, and are well behind quartzite. Grès, which is a variety of quartzite, closely follows basalt, and the granites are only better than the limestones. It may be mentioned also that the ninety-one different samples of pebbles and gravels which were tested only averaged 9·6 in column 6 (reports of the road engineers).

TABLE A.

1	2	3	4	5	6	7
Order of Merit.	Class of Stone.	Average number of samples tested.	Co-efficient of wear by means of the Deval machine, for registering loss of weight by shock (10,000 revolutions of cylinders).	Co-efficient of resistance to crushing by gradual pressure.	Co-efficient of wear based on consumption of material per 100 colliers per kilometre.	Aggregate Value.
1	Quartzites.	25	16·6	14·2	14·0	44·8
2	Quartz.....	53	14·3	14·3	14·2	42·8
3	Porphyries	29	16·0	12·8	13·9	42·7
4	Eurite	9	16·0	13·4	13·0	42·4
5	Basalts, Traps, and Diorites...	41	15·0	12·8	14·3	42·1
6	Grès..... (metamorphic sandstone)	43	15·4	13·2	12·6	41·2
7	Flints	77	11·1	16·6	11·3	39·0
8	Millstones.	19	11·1	15·2	11·1	37·4
9	Schists.....	13	13·4	12·2	11·6	37·2
10	Gneiss	14	14·3	12·0	10·2	36·5
11	Granites and Syenites...	55	13·6	10·2	10·5	34·3
12	Limestones	137	10·2	9·9	8·0	28·1

When the Report which we have had under our consideration was prepared, an additional method for testing relative value had not then been brought into use. This method is by means of a machine invented by a M. Dorry, and has already been briefly alluded to in our columns in connexion with the Paris Exhibition last year.* It is a frictional machine, and has further demonstrated (as indicated in the table below) the superiority of resistance to constant wear of quartzites over any other kind of stone on which experiments have recently been conducted.

* The *Builder*, June 15, 1889, p. 440.

TABLE B.

Results of Tests of different Road Materials made at the Laboratory of the Ponts et Chaussées, in Paris, in 1889, *with the "Dorry" Machine.*

N.B.—The annexed numbers give in decimals of an inch the thickness of stone removed by friction from the lower side of a prism loaded with a constant pressure of 511 lbs. on the square foot, the grinder (64·5 in. circumference) revolving 4,000 turns at a speed of 2¼ miles per hour:—

1. Quartzite of Cherbourg (Manche) ..... ·11
2. Quartzite of Domfront (Orne)..... ·15
3. Quartzite of Voutré (Mayenne) ..... ·16
4. Quartzite of Croixille, near Harcourt (Calvados)..... ·18
5. Grès de St. Sauveur le Vicomté (Manche) ·21
6. Grès d'Erquy (Cotes du Nord) ..... ·22
7. Grès d'Epernon (Eure et Loire) ..... ·24
8. Porphyry of Lessines (Belgium) ..... ·24
9. Granite from Norway ?..... ·24
10. Grès de St. Cheron (Seine et Oise)..... ·24
11. Porphyritic granite of Clefey (Vosges)... ·25
12. Granite of Sacé (Mayenne) ..... ·26
13. Porphyry of Quenast (Belgium)..... ·27
14. Granite of Flamanville (Manche) ..... ·27
15. Granite of Iles Chausey ..... ·29
16. Granite of Arkose ..... ·29
17. Granite of St. Brieuc (Cotes du Nord) ... ·30
18. Granite of Rostellée (Finisterre)..... ·33
19. Granite of Brest (Finisterre) ..... ·39

And many others with greater loss by friction.

It will be noticed that the relative aggregate wear of the different varieties of stone here given is approximately as follows:—

Quartzite ... 1
Grès 1¼
Porphyry ... 1⅔
Granite ... 2

That is to say, granite would wear out twice as fast as quartzite, an approximation to the results arrived at by the preceding tests.

If we examine the geological maps of the north-west of France, it will at once be seen that the volcanic and metamorphic rocks are almost entirely absent from Picardy and the eastern portion of Normandy, and it is consequently the case that, though in the interior of those provinces local stone has to "be made the best of," large quantities are imported from many parts; for instance, the porphyry of Lessines and Quenast finds its way to Arras from Belgium, and the quartzite of Cherbourg is used to a great extent int he towns along the coast, such as Havre, Dieppe, Boulogne, and Calais. Starting from the north-west corner of the horn of the Depart-

ment of Manche, viz., Cape de la Hague, great beds of metamorphic rocks stretch down in a south-easterly direction through Manche, Calvados, and Orne, having their northern limit a little to the south of Caen, and their southern down in Brittany and the northern portion of Touraine Through this vast mass of excellent road material, granite and other volcanic rocks of many kinds protrude here and there as usual, and Normandy is rich indeed in the stones it possesses.

In the hilly district inland from Avranches, a capital white quartzite is found in the hill-side above the very picturesque town of Mortain; it is used generally throughout that district, but the price at Granville (the nearest port),—viz., 8s. 8d. per ton for 2½ in. stone,—is too high to enable it to be available for export in competition with other places, as, however good a stone may be, it is generally useless for export unless it lies near a good port. Proceeding round to Cherbourg, we find the two requisites,—the port and the stone,—close together; for, immediately at the back of the town lies the so-called mountain of Roule, the top of which is about 400 ft. above sea-level. The northern portion of this hill, which faces the harbour, is a solid mass of quartzite, in beds of from 2 ft. to 7 ft. in thickness, which have, as a rule, no intervening strata of rubbish or inferior rock. The dip to the north and north-east varies from about 50° at the west end of the hill (which is precipitous and cut off by the little stream of the Divette), to vertical in the centre, with a reverse slope to the south towards its east end. Starting from the west end, which is nearest to the docks, the first quarries are those which belong to the Department of Marine, from which, together with others, the great Digne, or breakwater, has been constructed. No machines are employed in either of these quarries, and but few men; but the quality of the stone is very good. Next to these is the quarry of the *Société Anonyme Française*, which is one of greater importance. M. Menut, who is the manager of this Company, employs a considerable number of workmen, and has recently erected a crushing mill of some size, supplied by a French firm of engineers. There is no apparent difference in the quality of the material here from that in the above-mentioned quarries.

Proceeding eastward we arrive at the extensive quarries of MM. Fonty et Cie., who employ about 300 workmen, 150 of whom break stone by hand, the remainder being employed in quarrying and dressing setts, and at the crushing-mills, of which they possess two. The first, which was provided about a year and a-half ago by Mason, of Leicester, is of the usual type, having a riddle 12 ft. long and 3 ft. 6 in. in diameter, divided into three sections, pierced with 1, 2, and 2½ in. holes respectively. It is set at an angle of about 20 deg. to the horizontal. The 45-horse power engine which works it also works a grinding-mill and a small, very fine riddle, set up expressly for producing the sand of crushed quartzite, which is used almost, if not quite, exclusively now at the Government and other laboratories in Paris and in the cement factories in France for testing the quality of cement. The variety of processes through which the stone passes before it is converted into sand, passing the requisite tests of the Government, runs up its cost to a somewhat high figure, viz., 8*l.* per ton. But this is not a matter of any great significance, for the quantity required is never very great; it, however, furnishes us with an admirable example of the extreme care taken by the French Government to obtain the most reliable data from the tests to which they subject materials. They recognise that the results obtained by an admixture of cement with sands of various textures, and whose grains are of various forms, are unreliable. For instance, sand with, in the one case, sharp-angled grains, and, in the other case, round grains (such as sea-sand), would produce the same difference in tests for strength as those in concrete in which broken stone and round pebbles had been severally used.

The other crushing mill, which has been in use for about four months, has been supplied by Marsden, of Leeds, and is in many respects so different to those in general use that it will be instructive to give a more detailed account of it. The rough blocks of stone (from the size of a man's foot to that of his head, or a little larger) are shovelled or thrown at required intervals from the railway trollies (mètre gauge), each of which holds about five cubic yards, into the hopper connected with the crushing jaws, from which the broken stone is carried by a shoot into buckets attached to an endless chain; this is set at an angle of about 60 deg., and empties the contents of the buckets into a hopper, which feeds the lowest of two riddles. This riddle is set horizontally, and with a diameter of 3 ft. 6 in. at the end next the hopper, increasing to 6 ft. at the outlet, is consequently in the form of a truncated cone. Its length is 12 ft., which is divided into four sections, pierced with circular holes ¼, ½, ⅝, and 1¼ in. respectively, the smallest holes being next the feeding hopper. This riddle revolves, and the larger stones gradually work towards the other end, parting in their progress onwards with the smaller particles. That which remains falls into a shoot, which feeds another series of buckets on an endless chain, set at an angle of 50 deg. by means of which the bulk of the stone, now partly screened, is raised to an upper level and discharged into a hopper which feeds a second riddle. The spindle of this upper riddle lies about 6 ft. above, and the same lateral distance from the spindle of the lower riddle. This is also set horizontally, and is also in the shape of a truncated cone, being 3 ft. 6 in. in diameter at the inlet, and 5 ft. diameter at the outlet. It is 10 ft. 6 in. in length, divided into three sections pierced with holes of 1½, 1¾, and 2 in. respectively. All stone which fails to pass through the holes in the last section passes out at the end to a shoot, which sends it back automatically to the crushing jaws. Beneath each section of each riddle is a container, from which the trucks below can be filled by means of sliding trap-doors, capable of being opened and closed by cranked arms. Consequently, two lines of narrow gauge (half mètre) rail can be placed under the mill, carrying trucks, each of which contain half a cube mètre of broken stone, and the various sizes of metal and material for concrete are readily sorted and run to heap. The arrangements of this very compact mill, which is worked by a 35 h.-p. engine, are stated to have been designed by M. Fonty (one of the members and Managing Director of the Société) and are undoubtedly most complete and creditable.

With these first-class machines, a very small proportion of flaky stone and a very large proportion of well cubed stone is produced; so much so, that the difference between this and hand-broken metal is, even to a well-practised eye, scarcely apparent, and, practically, the value of each for road work is the same.

Taking one week with another, the 150 hand-breakers, from one cause or another, do not turn out more than about 700 tons of metal, whilst the two mills will produce more than double that quantity per week.

The quarries are, as usual, sub-let to gangs of from six to twenty men each, who find their own tools, or they can be supplied and kept in order for them by the Société at fair prices. They also find their own blasting-powder, which (as is usual in similar quarries elsewhere) is preferred to any other nitrogenous compound, and the quarrymen and stone-dressers are paid solely for the setts they produce, the whole of the remainder of the quarried stone, which is afterwards broken up generally into road metal, being the property of the lessees of the quarry, and supplied free of cost to the hand-breakers and to the mills. The cliffs or exposed faces of these quarries are in some cases of considerable height, even up to about 200 ft., and, as is frequently the case elsewhere, the heart stone is distinctly better than that near the surface. A small proportion of the stone is of a very light grey colour—almost white. This is comparatively easy to work, both for setts and for metal, and can be supplied at a slightly lower price than the pale blue-grey, which is the most durable, and the characteristic stone of Cherbourg. There is also a little slightly tinged with iron, which is probably as durable, but not, of course, so desirable where colour is deemed important. The durability of this stone is well exemplified by the fact that at the approaches to the dock bridge at Cherbourg, where the traffic is very considerable, the wear on the quartzite setts is much less than that on some granite racer blocks which have been once renewed, the two being laid side by side with each other.

It is usual in France to pave with setts of a much greater width than those which are commonly used for English streets, and it is believed by the Cherbourg stone-cutters that narrow setts could not be made from their stone without an enormous waste of material. That might be so, but it could be tried. They, however, maintain that there is no real advantage to be gained by the narrow setts, which only make more joints, and add so much to the cost of the paving, considering that the security of foothold does not, or should not, depend particularly on the joints in the pavement, but in the irregularities on the surface of the stone, a view supported (so far as that point is in question) by Mr. Dunscombe, the late eminent engineer to the Corporation of Liverpool and the County Council of London. But the bevelling of the sides of these large setts seems unnecessary and erroneous in every way. The size of metalling most frequently demanded is about 2 in., and a large trade is being done with the coast ports of France, and (more recently) with some few places in England, viz., Southampton, Sheerness, Erith, &c. It appears to be an excellent material and deserving of confidence, more especially as it can be supplied to any places where good durable stone is scarce at very moderate prices, *i.e.*, from 10s. to 11s. a ton for 2 in. metal. It would probably pay the proprietors well to make a railway to the dock in place of transporting it in the unwieldy carts which are invariably used in that part of France, and are sometimes loaded up with as much as six tons of stone, the usual allowance of horses being one per ton of stone. This gives a gross weight of nearly three-quarters of a ton per inch of tire, which necessitates stout roads.

The laboratory reports on this quartzite of Cherbourg are very satisfactory, and are as follows, computed on the same principles as in Table A:—

Co-efficient for resistance to crushing	20·4
Do. do. to shock	21·
Do. for actual wear on roads	18·
Total	59·4

which is far beyond the average of 44·8, the highest on the list in Table A.

The chemical analysis of the sand is also very remarkable, giving 99·45 of silica, which does not leave much room for anything else.

The next, and last, place which we need consider in connexion with this branch of the subject is Caen. About eight miles south of that town lie the celebrated quarries of grès stone near the village of May. Those close to the village and running from it down a huge artificially-cloven gully to the bank of the river Orne are M. Caval's, and those lying to the north of M. Caval's and running in two lines parallel to the above-mentioned gully are M. Barrier's, a gentleman who also owns the quarries of white grès at Perrieres (between Mezidon and Falaise), a stone which is used for similar purposes to those at May, and is, in the opinion of some of the engineers, even its superior in quality. This grès is a very compact metamorphic rock of moderately fine grains of sand solidified by a cement of extraordinary tenacity. As has been frequently remarked, it is very difficult to determine the distinction between grès and quartzite; nevertheless, the stone of May and the stone of Cherbourg are in appearance very dissimilar, the latter being a

pale bluish-grey, and the former varying from a deep copper colour to a buff-grey, and is not infrequently grey, mottled with copper. The power of this stone to resist abrasion has already been noted in our columns in connexion with an article on "The Paving-stones in the Paris Exhibition,"* and it is very extensively used throughout all that part of Normandy. The strike is W.N.W. and E.S.E., and the dip about 45 deg. to the north. In these quarries a good deal of poor rock (especially in the quarries of M. Barrier) intervenes between the main strata, which vary very much in thickness, some being very thin and in much demand for flagging and footpath work generally.

There are also quarries of grès on the west side of the river Orne, opposite to those at May, and nearer to the station of Fouguerolles. These are little more than superficial scratchings, but many thousand tons of broken metal are piled in little heaps all over a large area, which belongs to a M. Thomasse, who, for some reason or other, has allowed most of it to remain there for a considerable period. It does not appear to be quite the equal in quality to that on the opposite side of the river. The setts and squares from May find their way to Paris and many other towns. There does not appear to be any difference in quality between the copper-coloured grès and that of other colours: and, though some may fancy that the red is the best, no difference is apparent in the wear of the little squares which pave most of the footpaths in that part of France, whatever their colour may be; but the more crystallised outwears the duller portion of the rock.

The prices of this stone, free on board at Caen, are as follows:—

Setts, from 11s. 6d. to 18s. 6d. per ton, covering from 2½ to 2¾ yards super. They are from 6 to 7 in. in depth, and are 5 to 6½ in. by 7 in. in area.

Squares, from 22s. to 36s. per ton, covering from 7½ to 10⅜ yards super. They are from 1½ to 3 in. in depth, and from 5 in. by 5 in. to 6¼ in. by 6½ in. in area.

2 to 2½ in. stone broken, 5s. 6d. per ton.

Unbroken stone in blocks, 4s. per ton.

The stone from May is transported chiefly by cart, if intended for export, and put straight on board at Caen, which saves the double shift into the railway-trucks at Fouguerolles, and out again at Caen Station, notwithstanding the proximity of the former station to the quarries. The canalisation of this part of the Orne would not be an expensive or a difficult matter, and would considerably reduce the cost of transport of this stone. Below Caen the river is tidal.

Through many miles of this red grès the line of railway passes on its way from Caen to Flers, and as the river Orne winds through it, leaving steep wood-clad bluffs of some 200 ft. in height, first on one bank and then on the other, we become aware that beautiful scenery is obtainable in Normandy, of a character not dissimilar to that of the finest parts of Derbyshire, and therein lie the homes of the road stones.

* *Builder*, October 19, 1889, page 271.

NOTES.

THE Art Congress at Birmingham has been in one sense more successful than either of the previous ones, owing to the alteration in the grouping of the meetings, by which in the mornings there has been a collection of all the members at one meeting only, and in the afternoons there have only been two meetings in progress simultaneously, the subjects connected with various sections being more or less grouped together. This is a much better arrangement for promoting the interest and spirit of the meetings than dividing the proceedings up into five sections meeting simultaneously in five different rooms, which leads to the splitting up of the audiences into a number of small groups, or the entire desertion of one or two sections in favour of one particular one which happens to be popular. This led to some of the best and most useful papers at both the two previous Congresses being read to audiences of half-a-dozen people. The new arrangement is certainly advantageous to the cause of Architecture, which is always the unpopular section with the majority of the subscribers, as the subject they know least about. Under the new arrangement they can be got together into one room by something they care about, and can then be caught and taught about architecture. There was a fair attendance at the Wednesday morning meeting, which was a specially architectural one, when Mr. T. G. Jackson read his address as President of the Architectural Section, which was an admirable and very moderately-worded protest in favour of the purely artistic view of the architect's function, as that of an artist, and not a surveyor. A short and very spirited paper by Mr. R. T. Blomfield, which was evidently much enjoyed by the audience, followed very aptly as a protest in the same direction, but in a lighter and less serious vein. In next week's issue, when the whole of the papers will have been read and can be considered and compared, we may be able to give something like a summary and critical estimate of the general results of the teachings of the third Art Congress.

AS will be seen by our report of the meeting of the London County Council, that body, after about four hours' further discussion, on Tuesday last adopted by a large majority the extensive scheme, propounded and recommended by the Housing of the Working Classes Committee, for the clearing away of a large slum in Bethnal Green. The proposals of the Committee were fully detailed in their report, presented to the Council last week, and printed by us nearly *in extenso* at the time. The opponents of the scheme did not deny the wretched and insanitary condition of the hovels which cover the fifteen acres of area in question; they merely differed from the majority as to the best means of procedure, and they very rightly urged that it would be desirable to proceed with great caution in the promotion of such schemes if they did not wish to put a premium on "the cultivation of slums for the improvement market." They also urged, and with much justice, that the local authorities should be far more sharply kept to their obligations, in such matters as paving and scavenging, than they have been hitherto. From a personal inspection of the area in question made on Wednesday last, we must testify to the apparently utter absence of scavenging, the streets being strewn with garbage of all kinds. The paving, in places, notably in front of the house No. 1 Sherwood-place, at the corner of Christopher-street, is in a disgracefully broken and dangerous condition, full of holes admitting of the passage of surface water, more or less foul, to the subsoil of the houses. Some of the houses on the area scheduled are very dilapidated and old. In the side of the house at the corner of Mount-street and Church-street is an ornamental tablet with a rose in the centre, and inscribed "Rose-street, 1725." We trust that in carrying out the scheme care will be taken to avoid wholesale evictions, which can only lead to overcrowding in other parts of the neighbourhood. There are on the area scheduled several vacant sites, or sites only cumbered by condemned houses, which might be made available for the commencement of the work of erecting new and sanitary dwellings to receive the inmates of the adjoining hovels.

THE country fire season has now commenced. A serious fire, for example, occurred not long ago at Sir George Dasent's house at Ascot. Of course, the first thing is for occupiers to do their utmost to prevent fires by seeing that the structure of the building is in proper condition, and that due care is taken with lamps and candles. But it is a matter of doubt whether, generally speaking, England is not behindhand in regard to appliances for extinguishing fires. It has been stated more than once, on good authority, that the London Fire Brigade is undermanned, but in many provincial districts there can scarcely be said to be proper appliances for putting out fires at all. In some instances there is a Volunteer Fire Brigade, with an engine which is often very weak, or not in good order. The Towns Police Clauses Act, 1847, is incorporated with the Public Health Act, and contains a clause giving power to Commissioners to obtain proper appliances. But what seems to be required is some general system. There should be fire brigades in every town of a strength in proportion to the size and population of the town, and in the country there should be engines and escapes at certain defined centres, and the cost should be defrayed from the rates. Until this is done property can never be as safe from injury by fire as it might be, and the rates of insurance for buildings cannot be safely lowered.

WE have received from Messrs. Flockton & Gibbs, of Sheffield, the specification of the patent which they have taken out for their improved plan for the arrangement of public buildings, as illustrated in their plans sent in competition for the Sheffield Municipal Buildings. The complete specification lays down the main point thus—

"The plan for which we claim novelty is the placing of the rooms of each department in a separate wing or compartment of the building, arranging the rooms within it as if each wing or compartment were a separate building with entrance for the public to each department through or by an inquiry or general office, and with no other entrance for the public to the private offices; and combining the several departments into one building by grouping the wings or compartments around a central public hall or passage, through which alone the public can gain admittance to the inquiry or general offices of the several departments."

This is a clear and definite statement of what is claimed by the patentees as an invention for protection, and it will no doubt be a matter of considerable interest for the architectural profession to have the question, whether there can be a patent-right in a special plan of building, discussed and definitely settled. Messrs. Flockton & Gibbs ask us to draw attention to the fact that notice of opposition to the patent can be given within two months after the date of advertisement (October 29), "on the grounds stated in section 11 of the Patents Act of 1883. The subsequent procedure is set forth in sections 12 and 13 of the same Act, and in Nos. 34 to 44 of the Rules under the Act."

IT is satisfactory to learn that the principle of arbitration has been upheld by the decision of the Board of Conciliation which took the Tyneside shipbuilders' dispute in hand. It will be recollected that this Board was formed on the recommendation of the Mayor of Newcastle, and was composed of representatives of the various crafts connected with shipbuilding, with full power to settle the dispute. They considered,—as, indeed, did all parties except the disaffected joiners,—that all those concerned were bound to comply with their written agreement to adhere to Mr. Burt's award; and the strikers were accordingly ordered to resume work this week. Certain minor points connected with the apportionment of work between the carpenters and joiners have yet to be decided upon. Disputes arising from "division of labour" have been rather numerous of late, especially in the shipbuilding trades, though few, fortunately, have resulted, as this affair has done, in a strike extending over a period of three months. For instance, there exists at the present time a considerable amount of dissatisfaction amongst the ships' plumbers, &c., arising from similar causes, which also threatens a cessation of work. These are matters which the men take very largely into their own hands, and whatever the merits of the case may be, and whichever section of the men is really aggrieved, the employer is bound to suffer in the event of a strike,—although he may be on the best of terms with

each department concerned. Nor is it to be charged against him that it was in his province to have apportioned the work satisfactorily at the outset, and thus have left no room for complaint. For gradual but revolutionary changes in the style and build of vessels, and in the methods of constructing them, has by degrees effected a disarrangement of the original apportionment of the labour. This, at least, appears to be one of the principal features of this very irritating, among the many causes of strikes,—and one with which Conciliation Boards would seem to be best able to deal.

AN apparently inspired article in a recent issue of the *Times* again refers, and at some length, to the so-called Grand Junction Railway—that is, to the amalgamation of the Manchester, Sheffield, and Lincolnshire Railway Company with the Metropolitan Railway. Some kind of scheme for joining these two lines appears to be in the air, but as two blacks do not make a white, so two poor companies joined together do not make one rich and flourishing company. It was stated in the article to which we allude that a terminal station will be constructed near Lord's Cricket Ground for the purposes of the distant traffic, and that Baker-street will continue to be the terminus for local traffic. A terminus in such a northerly part of the metropolis as St. John's Wood is not one which is likely to increase main line traffic to the North, and for purposes of public convenience, and for the future prosperity of the new system, we have little doubt that Baker-street is the proper place for a terminus. But, as we have more than once pointed out, it would be necessary to double the existing St. John's Wood line and spend an enormous sum of money in the purchase of land at Baker-street. The fact is that the main line of the Metropolitan is being constructed before a terminus has been found, and if one is built at St. John's Wood it will be rather that of the Sheffield Company than of the Metropolitan.

THE Exhibition of the Institute of Painters in Oil Colours, which opened this week, is strongest in landscape, and contains some fine works of this class. Among these are Mr. Hughes-Stanton's "A peep of the Arun" (43), Mr. David Murray's "Hallowed Ground" (87), a scene in the churchyard of a village, very fine both in sentiment and colour; Mr. Wimperis's "A Fresh Day" (92), a heath scene with great piles of clouds travelling on the wind—a fine example of the old school of water-colour painting; Mr. Parton's "Summer days at Wargrave" (162), and Mr. Johnson's "Richmond Bridge" (636), Mr. Hope McLachlan's two landscapes, "A Pastoral" and "On Askham Common" (234, 244), are remarkable little works of their kind, but rather landscape *fantaisies* than transcripts from nature. Among figure pictures Mr. J. H. Bacon's "A Song of Long Ago" (111) has real feeling and artistic power. Mr. Joseph Clark sends a picture entitled "Familiarity Breeds Contempt" (384) in which the figure of the boy seated on the left should be noticed as one of the best things in the Gallery; as a whole the picture is not as interesting as many of his. Mr. John Burr's "Better is a Dry Morsel and Quietness Therewith" (377) is a very interesting little work, and Mr. Hugh Carter, in "A Dutch Cobbler" (566) has achieved a remarkably good imitation of Israels. Mr. T. B. Kennington, who is never commonplace or uninteresting, sends two or three works, among a rather large one, "His Daughter's Bairn" (237), representing an old man and his grandchild seated together, which is quite above the average level of the work at this exhibition, not only in execution but in the refinement and character shown in the two thin and sad faces. Mr. John R. Reid's various works give one in another sense rather a melancholy feeling—the work of a gifted artist who is going astray in search of an original style; he may be said to have found it, but it is a style essentially false and sensational, in spite of a certain power of colour. Mr. Fulleylove has a couple of little views of Ely Cathedral; Miss Maud Cruttwell's cleverly-painted little works, "Students" (345) and "Egyptian Still Life" (376) show remarkable talent in their way; Mr. T. Farquharson has made a realistic study of "The Banks of the Nile" (561); and Mr. F. D. Millet has one of his interiors with a figure under the title "Michaelmas Daisies" (319) which, besides the general merit belonging to his careful and refined but rather inexpressive work, is remarkable for the brilliant colour effect produced from the jar of bright flowers which forms the central "accessory" of the scene. The Exhibition suffers, like most of its predecessors, from being too large and including too much work which can be of no value or interest except to cover the walls; it would be far better to hang fewer works and keep the standard higher. There are some (figure pictures especially), which we do not care to particularise, the admission of which into anything pretending to be a high class exhibition is absurd, and most detrimental to the reputation of the Institute.

TWO collections of works have been exhibited simultaneously this week at Messrs. Dowdeswell's Galleries in New Bond-street: a collection of pastels of Hampstead Heath views, by Mr. H. Muhrman, and a set of paintings of Highland cattle by Mr. T. Denovan Adam, an Associate of the Scottish Academy. Mr. Murhman's pastels are marked by what we should deem an affectation of roughness of execution, and are certainly not suggestive of open air and daylight; and in some cases the worship of smudginess is carried to such an extent that it is difficult to tell what is intended at all. Mr. Adam's cattle-paintings, which are the result, we are told, of many years' study of the Highland cattle in their native scenes, are also somewhat rough in execution, painted with a certain defiant vigour which seems indifferent to superficial finish, but they are many of them very powerful works, and show the rough, shaggy, and almost truculent physiognomy of the animals with every appearance of truth. Some of the scenes are very fine in colour also, and there are some among the smaller paintings that remind one of Troyon.

THE Pastel studies of wild animals by Mr. Nettleship, now on view at Mr. Dunthorne's pretty little gallery in Vigo-street, are of unusual interest. In the note prefixed to the catalogue we are told that each of these studies is a direct record from Nature, the attitude and action being in every case drawn from the animal itself as actually seen at a given moment of action or repose. They produce the impression of truthfulness which this system would seem to promise, and many of them are remarkable examples of drawing. Among the best are the "Tiger stretching" and the "Tiger walking" (20 and 21), "The Bison" (22), the "Head of a Lion" (25), the "Polar Bear" (53) emerging from the water, and the "Young Lion" (62). Most of them, we believe, are studied from the animals at Regent's Park. The drawing of the "Wapiti Stag" (56) seems to fail in giving the true character of the head, which appears too heavy and blunt in shape. But in general these are very fine studies, and the author is not one of those who regards Pastel as a medium that affords an excuse for roughness of execution; the sketches are nearly as fine and delicate in finish as sketches can or should be.

FROM a statement prepared by the Burgh Assessor of Edinburgh, it appears that the rental of the City for the year 1890-91, exceeds that of the previous year by the sum of 41,270*l.* The first valuation after the passing of the Act, for the year 1855-56, was 761,963*l.* 9s. 1d. That for the current year is 2,106,395*l.* 1s. 4d., showing a total increase for the last thirty-five years of 1,344,531*l.* 12s. 3d. As Edinburgh is not a manufacturing town, this increase is owing to its attractions as a place of residence. It is, therefore, incumbent upon the citizens to keep a sharp outlook upon any attempt to decrease the amenity of the city.

THE final closing, as a Chapel Royal, of the Banqueting House, Whitehall, puts the period to the last stage in the history of the building. What the next will be remains to be seen. Inigo Jones's original plans are still preserved, we understand, at Worcester College, Oxford, to which foundation they were bequeathed by J. Oliver, City Surveyor, who died, 1736. They would have covered an area of about twenty-four acres, consisting of seven courts, with frontages of 874 ft. to the river and St. James's-park, and return frontages of 1,200 ft. towards Charing Cross and Westminster. Three sets of them, differing in certain particulars, have been published, one in Campbell's "Vitruvius Britannicus," 1717, of which set the authenticity has been questioned; another, being four large prints, by Lord Burlington, 1748-9; and another, several plates, by Kent, 1727. A series may also be seen in the Crowle Pennant, at the British Museum; and there is a large collection of views and drawings in the Guildhall Library. Wren made three designs for additions to the Banqueting House for King Charles II., and, after the fire of 1697, for King William III. Portland stone is said to have been used for the first time in its construction.* Inigo Jones was paid 8s. 4d. a day, as surveyor, with 46*l.* a year for house-rent, clerk, and expenses. Nicholas Stone, his master-mason, received 4s. 10d. *per diem*. For the painted ceiling Rubens was paid 3,000*l.* The modern annexe, a sad disfigurement, by J. Wyatt, on the northern side, replaces a building which is shown in one of Hollar's set of views, that of the western front and Holbein's gate, which was deposited in the Pepysian Library, at Magdalene College, Cambridge. In a privately-printed chronicle of the Palace for the period 1514-1876, drawn up by Mr. Richard Massey, who was organist to the chapel during the interval 1837-77, we read that the organ was the first built (1662) by Father Schmidt in this country. The carved oak case, and some of the original pipes, are preserved in the present instrument, which was altered in 1814 by Elliott & Hill; and again in 1844, under Massey's directions, by Messrs. Hill, when a swell organ and a solo organ on a fourth row of keys, with additional stops, were added. Purcell was a choir-boy here, and afterwards organist. In the Loan Collection at the Church Congress, Derby, 1882, was exhibited by the late Mr. A. J. B. Beresford-Hope, a picture of the interior of West Minster, showing the marble altar-piece, erected in 1705, by Wren's advice, which had been made "for a chapel [the old chapel marked in Vertue's plan] at Whitehall." This was replaced, *circa* 1820, with a compo. restoration of the old reredos, and that again by Sir G. Gilbert Scott's alabaster restoration of the same. The Banqueting House was converted into a Chapel Royal in 1715; and there, over the altar, were placed from 1811-29, some eagles and standards captured from the French armies. Sir Robert Smirke restored and refitted the interior, 1837.

THE public recreation-ground, Maryon Park, to which we adverted last week, forms part of the original manor which King James I. gave to Sir Adam Newton, his son Henry's tutor. Newton employed Inigo Jones, a resident of Cherry Orchard, in Charlton parish, to build the existing house (1607-12),† for which were planned a saloon and gallery, a chapel, state dining-room, and

* The exterior was largely repaired, 1829-30, by Sir John Soane. See s. n. Soane, in "The Dictionary of Architecture."

† Inigo Jones was also the architect of Norton Court, near to Faversham; the Queen's House, Greenwich; and the front (centre) of Cobham Hall. Also, in this same county, are attributed to him Chilham Castle (portions) Judde House, Ospringe; Broom Hall; Chevening House; and Lees Court (front).

great hall. The west front was added by Sir Henry Knevitt. The parish church of St. Luke, rebuilt 1630, is said to have been the second erected in England for Protestant worship. About twenty-five years ago the Dutch almshouses in Moorfields, under care of the Consistory of the Dutch Church, Austinfriars, were acquired by the London and North-Western Railway, and the charity was transferred to Old Charlton. The new Alms-houses and Convalescent Home —see the *Builder* of May 14, 1887—designed by Messrs. E. l'Anson & Son, were opened by the Countess Charles van Bylandt, wife to the Netherlands Minister. The cost of the extension works, about 7,000*l.*, was defrayed by the Consistory trustees. In the immediate neighbourhood Sir John Morden, Bart., founded, towards the close of the seventeenth century, the Morden College, which he endowed after his wife's decease with his whole estate and Old Court, of about 1,300*l.* a year, for decayed merchants.

THE School Board for London have just drawn up their annual schedule of sites and premises which they propose to acquire for purposes of school supply in the course of next year. These consist, in many cases, of additions to their existing schools. Allowing for two alternative sites in the Hackney Division, and for two others in the East Lambeth Division, the total number of new or enlarged schools is twenty-three (37),* distributed in the Divisions as follows:—City: Swan-street, Minories, one. Chelsea: Marlborough-road and Droop-street Schools, two. Finsbury: Wellington-road and Blackstock-road Schools and Hildrop-crescent, all in St. Mary's, Islington, three. Hackney: Culford-road or Enfield-road, St. John's, one. Marylebone: Lydford-road, Paddington; Fleet-road School, St. John's, Hampstead; Stanhope-street School, St. Pancras; and Nightingale-street School, St. Marylebone, four. Tower Hamlets: "Ben Jonson" School, Mile End, one. Greenwich: Whitbread-road, Lewisham; Elizabeth-street, Woolwich; and Purrett-road School, Plumstead, three. East Lambeth: Grove-vale or Lytcott-grove, Southampton-street and Bird-in-Bush-road Schools, all in St. Giles' Camberwell, three. West Lambeth: Tooting Graveney (Broadway) School, one. Southwark: Albion-street and Midway-place Schools, Rotherhithe; West-square School, St. George-the-Martyr; and Alma School, Bermondsey, four. These represent an aggregate of 39,724 (78,622) square yards, or nearly 8¼ (16¼) acres.

WE have received a copy of Dr. R. Bruce Low's Report to the Local Government Board, on an outbreak of diphtheria in the parish of Brinkworth, in the Rural Sanitary District of Malmesbury, Wilts. The following are some of the facts given under the heading "Sanitary Circumstances," but which one would think ought rather to have read "Insanitary Circumstances":—

"There is no proper sewerage in the parish. Sometimes slopwater is conveyed into the highway drains. The excrement disposal is by means of privy pits, which are emptied at irregular and often long intervals. The ashpits are not covered; their contents are from time to time removed by the occupiers, and are utilised on land. The water supply is from open ponds, locally called 'pits,' dug in the clay near to dwellings, the same pit sometimes serving several houses. In one instance six houses, containing nineteen persons, get their supply from a single pit. Occasionally the pit abuts on pasture land, and in that case cattle and horses drink direct from it. These pits vary in size from about 4 ft. to 16 ft. square, according to the number of houses using them. The depth varies from 2 ft. to 5 ft. The water in most of these 'mud holes' (as some local medical men term them) is generally turbid, and the surface at the time of my visit was covered with a thick green scum. It was stated that in summer the water stinks, and even in spring time it smells unpleasantly. Most people have to boil it, as it is unfit for use when drawn from the pit. This green, stagnant, stinking water is merely the collected rainfall on the clay soil, and contains impurities washed from the surface of the gardens and backyards. The pits mostly swarm with newts and other forms of animal life."

At the conclusion of the report Dr. Bruce Low recommends that the Rural Sanitary Authority should at once seek skilled advice and assistance with a view to obtain a better supply of drinking-water for the inhabitants of Brinkworth village, and that the present system of privy-pits should be abolished, and tub or pail closets substituted, arrangements being made for their frequent and systematic emptying. It is to be hoped these recommendations will be acted upon without delay; a moral duty, if it cannot be made a legal one.

THE opening of the Staffordshire Technical Art and Industrial Museum at Hanley, (Messrs. W. Sugden & Son, architects) was announced to take place on Thursday this week, Lord Dartmouth and Sir Henry Roscoe taking the honours of the occasion. In commemoration of the opening, Mr. W. L. Sugden one of the architects, has collected in a square pamphlet* with a tastefully-designed cover a number of mottoes from eminent writers bearing upon art and industry. The cue for this seems to have been given by the painting of a certain number of mottoes on the frieze of the building by order of the Committee, and these are distinguished by being printed in capitals, the rest are Mr. Sugden's selection. The selection does honour to the good taste and judgment both of the Committee and the compiler, and forms a very interesting collection of noble and suggestive thoughts, in some cases from writers not much read or known at present. Mr. Sugden takes for his general motto, as a heading to the whole collection, the following sentence from Sir Joshua Reynolds:

"An Institution like this has often been recommended upon considerations merely mercantile; but an Academy, founded on such principles, can never effect even its own narrow purposes. If it has an origin no higher, no taste can ever be formed in manufactures; but if the higher arts of Design flourish, these inferior ends will be answered of course."

The first of the Committee's chosen mottoes for decorative purposes is the sentence from Isaiah—"To give unto them beauty for ashes, the oil of joy for mourning." Nothing could be more expressive and suitable. Among those selected by Mr. Sugden we may mention two, one a serious one, from Sir Matthew Hale—"Idleness is the nursery of vain and sinful thoughts": the other a happy satirical adoption of the Archbishop's adieu to Gil Blas: "I wish you all manner of prosperity with a little more taste"; a wish that might be appropriately addressed to many a manufacturing town in England.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

THE PRESIDENT'S ADDRESS.

THE opening meeting of this Institute was held on Monday evening last at 9, Conduit-street, when the President, Mr. Alfred Waterhouse, R.A., delivered the following address:—

Gentlemen and Colleagues,—Since I last had the pleasure of addressing you at the opening of a new session you have conferred on me a great honour in electing me your President for a third year. I can assure you that I am deeply sensible of this proof of your confidence and esteem, and I take this opportunity of expressing my heartfelt acknowledgments, not only for the honour itself, but also for the kindness and forbearance you are ever so ready to extend to me.

I have to congratulate you on possessing premises much the better for the additions made to them by our Honorary Secretary during the recess. The room in which we are now assembled is certainly better lighted than it ever was before, and I hope we shall find from experience that it is better ventilated. It is now a convenient room in which to study and consult books. The original and restricted library and the old council-room, to be henceforth chiefly used for the storage of the volumes forming our ever-increasing and most valuable collection, will make excellent committee-rooms; while the arrangements for the permanent staff and Council downstairs could hardly be much improved so long as the Institute occupies hired premises.

It is gratifying to record that the direct representation of architecture upon the General Council of the Imperial Institute—a matter to which, in common with my lamented predecessor in this chair, I referred in a previous address, has been cordially conceded; the Councils of the Royal Academy of Arts and of the Royal Institute of British Architects will in due course send one representative apiece to the governing body of the Imperial Institute.

A communication made to the Council to-day will also be received by you with interest and satisfaction. You are aware that a sister of the late Owen Jones presented a sum of money to the Institute for the purpose of endowing a travelling studentship, worth annually 50*l.*, in memory of her distinguished brother. Miss Jones died in September last, and by her will the residue of her estate, amounting to about 2,000*l.*, is bequeathed to the Institute as an addition to the original endowment (applause).

The Examinations.

Since the commencement of last session the new system of progressive examination has come into operation. Two preliminary examinations for candidates qualifying as "Probationers" have been held in various centres, 169 students presenting themselves; of these, 62 have been declared exempt, and 77 have passed the examination, making a total of 139 who are qualified in due time to come up for the intermediate examination, which, as sufficient candidates have presented themselves, will be held for the first time this month. In addition, 54 gentlemen have passed the qualifying examination in architecture, entitling them to become candidates for associateship.

Every student intending to prepare himself for these progressive examinations should read the clear and complete account of them given by Mr. Cates in the *R.I.B.A. Journal* of January 23, 1890; and if a man is to take a creditable position as an architect in the future, he must begin by passing these examinations. It seems to me as essential at the present day to have passed them as it was in former years to have spent a certain period in an architect's office as a pupil. I do not say that both courses are not still desirable, even necessary; but I think it will soon be found that the passing of these examinations is a *sine quâ non*.

In this connection I would draw attention to a memorial from our colleagues in Edinburgh, supported by many distinguished names, to H.M. Commissioners for the Scottish Universities, recommending the establishment of a curriculum in architecture at the University of Edinburgh, and the institution of a degree or other University distinction for those who have successfully pursued it. The memorialists suggest what would be a proper course of study to lead to such a degree, and point out the advantages likely to accrue if effect be given to their proposals. They make appreciative mention of the Institute examinations, and it must be a cause of gratification to those who have architectural education at heart to find our Edinburgh brethren so anxious to continue what the Institute has begun, and even to go beyond it.

Bills of Quantities.

In my last address I animadverted on the impropriety of expecting builders, competing for the execution of contracts, to verify the correctness of the quantities on which they tender,—a practice, I believe, adhered to by H.M. Office of Works after it had been discontinued by London architects generally. This led to your Council addressing the Commissioners of Works on the subject, and brought, I am happy to say, a speedy reply to the effect that the practice would be discontinued. It is to be hoped that the high example thus set will be followed by those bodies in the provinces who may still adhere to what we cannot but consider an objectionable practice, not justified by equity, and calculated to bring the functions of the quantity surveyor into disrepute.

Deputations from the Building Trades.

We have received two deputations from several of the building trades, inviting us to use our influence for the insertion of certain clauses into our heads of builder's contract:—1st, to prevent the subletting of any portion of the work; 2ndly, that all labour employed by the contractor should be of the best quality; and 3rdly, that the contractor should not pay

* The figures in brackets are the corresponding figures for last year.

* London: W. Reeves; Leek: T. Mark.

less than the recognised or trades-union rate of wages, and should observe all recognised rules or customs as to working hours. The proposals of the deputations met with the consideration which they merited, without the Council seeing its way to take any collective action in the matter. Mr. E. T. Hall has communicated his views in an article contributed to the July number of the *R.I.B.A. Journal*, going fully into the subject, and showing in what trades subletting is practised in London and to what extent. He takes the view that, when subletting is allowed in the interests of one's clients, as, for instance, when stone is wrought in or near the quarries, instead of in London, and the general contractor, knowing that such a permission will be granted, reduces his tender accordingly, it may be our duty to allow it, especially when, though it may deprive the London masons of some work, it will give it to others probably equally deserving in the country. Few will, I think, disagree with him there.

Building Legislation.

Among the subjects which have engaged our earnest attention during the past session, none is of more importance, in my opinion, than the revision of the Acts which affect building operations in the metropolis. The general public may view the subject with apathy, as not understanding how vitally it affects its comfort, health, and well-being; in fact, the very magistrate on whom devolves the administration of the said Acts in cases of dispute is said to hate the sight of the District Surveyor when he brings his unfathomable technicalities into court. When, therefore, apathy, or disinclination to unravel the threads of a complicated and perplexing subject, is so general,—though the subject itself is so essential to the well-being of the community,—it is the duty of men, whose education and experience fit them above all others for the task, to help those engaged in the framing of such Acts with their advice and assistance. Now, this is precisely what the Institute has been doing.

A paper on "Building Legislation," read in this room by Mr. John Slater, in February last, was the theme of, and prelude to, two very interesting and important discussions, and to correspondence conducted by those who may be called specialists in this matter. Those who took part in them seem to be agreed almost unanimously that the time has at length arrived for the codification and thorough amendment and simplification of the some fifteen or twenty Acts and amendments of the same which now regulate building operations in the metropolis. A warning voice, however, that of Professor Aitchison, was raised against our striving after perfection,—by making the cost of houses too great for those who are to live in them. Others objected to building regulations being too definite, so as in some cases to become tyrannical and absurd; but it seems to me that because an existing definition may be found to work in this way in practice,—as, for instance, the clause in the Act which limits the sum of the openings in a wall to half its total area,—it is a reason for the amendment of the clause rather than for its exclusion. The fault, in my opinion, lies not with being too definite, but with the definition not being broad enough to meet with varying contingencies. The Act of 1855 having been framed chiefly for preventing the spread of fire from one combustible wooden-floored building to another is out of touch with improved fireproof construction, which ought, when properly applied, to allow of an increase in the cubic contents of buildings beyond the area now prescribed, at least, where the building does not contain goods of an inflammable description. The Act does not allow for the increased amount of glass called for by the ever-increasing pollution of our atmosphere; and, on the other hand, does not make due provision against the danger from fire incident to the use of lifts. It does not realise our greatly extended requirements in the present day; nor our extended building knowledge—our knowledge, for instance, of the treacherous nature of stone and iron in case of fire. The Act does not deal with important questions affecting the rights and obligations of adjoining owners; it does not concern itself, except by implication, with the underpinning of party-walls and of adjoining structures in cases where the new structure, going below the old one, affects the safety of the latter, and involves such a procedure. It ignores sanitation; and does not trouble itself about the formation of new building estates, where, of course, the evils we have most to deplore in our streets and thoroughfares can be most readily prevented. Mr. Slater urges, with reason, the necessity either of making our Building Acts of the future sufficiently expansive to meet such cases, or of giving our district surveyors a discretionary power to enable them to deal with special cases in a practical way, and probably his first alternative would present, in practice, the fewest difficulties.

The meeting in this room, when this subject was so fully debated, did not feel itself justified in sending Mr. Slater's valuable paper and the report of the discussion to the London County Council, but it is to be hoped that your Council will see its way very shortly to take decided further action in the matter; the urgency of this subject has been pressed upon us lately by the London Council (General Powers) Bill, which appearing at first as if it chiefly related to a bridge at Barking Creek and the acquisition of a new park for South London, was in reality of much more widespread interest. It proposed, in fact, important amendments in the metropolitan building regulations, some of which could not be looked upon with favour. Action was thereupon speedily taken by your Council, and a memorial addressed to the London County Council on the subject. We pointed out that many of the changes proposed were of temporary expediency, and many wanted further consideration, as, for instance, those clauses affecting sites at the corner of two streets, in one of which the line of frontage had to be set back, where the owner of the corner site would have had to set back also without compensation; and those affecting the heights of new buildings. We further pointed out the desirability, when an application was refused, of the grounds of the objection being stated, so as to enable the applicant to amend his designs to meet such objection. We also respectfully remonstrated against this indirect mode of introducing legislation affecting seriously private rights and questions of principle; and urged the advantage of promoting a thorough amendment and consolidation of the metropolitan building regulations. Some of these recommendations were accepted by the London County Council and their Bill was amended accordingly.

One of the most important provisions of this new Act is the establishment of a Court of Appeal in questions of lines of frontage, &c. The Court is to consist of three members: one appointed by the London County Council, one by your Council, and another by that of the Surveyors' Institution. The County Council deserves praise for its initiation of this reform—or rather this revival, under fresh conditions, of a tribunal established by the Act of 1844, but which from its peculiar constitution became a dead letter; and I sincerely hope it will work so well in practice as to show the propriety of giving to such Courts greatly extended powers in the future. The Act also fixes for the first time in London a limit to the height of new buildings not being the rebuilding of existing structures of a greater height. Ninety feet is the limit, exclusive of two storeys in the roof, and of exceptional features, such as ornamental towers or turrets and dormers. This should satisfy even the most aspiring among us; if it does not, there is still the right of appeal to the tribunal before referred to. It is with pleasure that I allude to the part taken by this Institute in criticising, amending, and, I may add, ultimately aiding the passing of this Bill. As an entirely disinterested body, and yet one most fully able to appreciate the tendency for good or evil likely to result from any change in building regulations, it is only proper that its voice should be heard and well considered at such a juncture; and it is gratifying to reflect that in this case the Institute was represented by Mr. Cates, who—the *locus standi* of the Institute having been admitted—claimed and successfully sustained the right to be heard personally on behalf of your Council, and to adduce evidence in support of our petition, without the costly intervention of counsel. His observations and the evidence given by Mr. E. T. Hall, on behalf of the Institute, were received with marked consideration by the Lords' Committee to whom the Bill was referred; and I am glad to state that both these gentlemen have received the special thanks of the Council for their very efficient services in connexion with its passing.

I cannot but feel, however, that even were we to get the most perfect Building Act for the regulation of our practice, it should be the function of some one,—or rather of some collective body,—to take a broad artistic view of that immense chaos called London, and, as opportunities arise, to point out in what way it can be improved as a work of art. The members composing such a body must be, I admit, men of business as well as artists, or their recommendations would soon cease to have any practical value. In laying down the line of a new street, it would be their duty to see that its extremities either ended in some existing building worthy of closing the vista,—as, for instance, the Strand, in the Church of St. Mary; or, that a site was reserved for some future erection with that object in view. It would be their duty to see that the best sites along its course were reserved for buildings of a character becoming their position, and that a flagrant want of harmony was not suffered in contiguous elevations; and, while always dealing indulgently with such as were modest and refined, the tribunal would be resolute in refusing the acceptance of designs of vulgar ostentation,—creations of the nightmare school, of which, unhappily, we have examples already thrust upon us. Indeed, we may have more if there be no authority to check this worst form of inflated advertisement,—the worst because it involves the prostitution of a noble art, and, when once erected, is not easily got rid of. I am not forgetful of Professor Kerr's pathetic inquiry, "If Heaven has made us Philistines, how can we help it?" But this, as it seems to me, is hardly a question of a man's right to do what he will with his own, provided he does not injure his neighbour. A street is public property, made not only for the use, but for the *enjoyment*, of the public, and it cannot be an enjoyment so long as it is vulgar or monotonous and ugly. I plead for the creation of some responsible body of men, by position, education, and cultivated taste, specially fitted for the task, whose main duty should consist in advising upon and controlling, from an artistic point of view, those works on which the future of London so much depends. I repeat the words I used in my address of last year, that an Architectural Council, to be appointed by the Government, and to be partly composed of professional men, is wanted in London. It is most difficult for those who have had no technical training to judge correctly of the probable effect of a contemplated building from an inspection of the drawings prepared for its erection. I plead, moreover, for the public exhibition of the plans of all metropolitan improvements prior to any final decision being taken upon them. Such a course would tend to create an intelligent interest in improvements which at present does not exist in London, and it would enable those who have to pay for them to consider in time if the proposals be good, practically and æsthetically, or otherwise.

We have obtained a tribunal before which certain building cases defined in the "London Council (General Powers) Act" will be tried; and if success attend the labours of this tribunal, other and perhaps more important matters relating to building may be referred to its judgment. So far so good. But more is wanted—namely, an Architectural Council for National Works, which should also be intrusted with the consideration of proposed improvements, and of all those questions, I repeat, on which the future of London so much depends.

Students' Work.

The system recently inaugurated of publishing criticisms on the work of students competing for the various scholarships and prizes offered by the Institute itself, or by others under its administration and direction, is to be regarded as one of great value. It shows the unsuccessful student wherein he has failed, and so guides him to a better chance of success in the future, pointing out even to the winners how to attain greater excellence, if willing to listen to the friendly advice of experience. I would again venture to remark, with reference to the work of those to whom Travelling Studentships are awarded, that what we should like to see is not mere evidence of their industry,—that is seldom or never wanting,—but a greater desire to make quality, apart from draughtsmanship, and not mere quantity, their aim. The student, nowadays, seems sometimes possessed of the restlessness begotten of the locomotive engine:—he stays, it may be, but a day in a place; in that day, to be sure, he does a marvellous

nmount of sketching, and he contrives to visit in the time which he has to devote to his studentship an astonishing number of interesting buildings, the most salient features of which he transfers to paper. I do not see, however, as often as I should like, that the student has sat down before a building to lay siege to it with the determination before he has done with it to make it his own,—to enter into the spirit of its builders, and to seek to discover their way of arriving at the ends they had in view. There should, in my opinion, be among our students a little more of the thoroughness which characterises the work of the French students, whose magnificent studies displayed in the Galerie Rapp, in last year's Exposition, so much impressed those of us who had the opportunity of examining them. I say "a little more," because in France, perhaps, this work is carried out with too great elaboration. Still, I would have our students make themselves so conversant with any work they analyse as to be able to pass an examination on its construction and features; and I think it would be well if the knowledge thus previously acquired by the candidate in the study and delineation of some ancient example were put to the test in our examinations more strictly than appears to be the case. Those who read for their amusement, or for their fancied instruction, do not generally read half so carefully as those who know they are going to be examined on what they read. And so I believe it is in objective drawing. If the painter-student knew he were going to be judged, not by his actual study from the life, but by what he could put of it on paper from memory afterwards, would not his attention be quickened to every subtlety of curve and proportion? Would he not become by such practice the readier artist? If the architect-student knew that it was not by the mere number and beauty of his sketches, and by the accuracy of the measured drawings of old edifices, that he would satisfy those who had sent him forth on his travels, but by the proofs he was able to afford that he had absorbed and digested what he had seen, I believe our student-work would sometimes be more thorough, and the men themselves in some cases would be the more ready designers after having had such preparation. Having got the ancient examples into their heads, instead of merely into their sketch-books, they would learn to lean not on illustrations and other extraneous help, but on what had become a part of themselves, and so prove not mere copyists, but self-reliant and original designers. Of course, if such careful analysis of a single example of architecture is recommended to the student, it is highly important that he should know beforehand what buildings will best repay the time thus devoted to them; and it would be a work of very great interest and utility if those best qualified for the task were to catalogue such buildings, giving at the same time their date and most noteworthy features and characteristics, not disdaining to mention also their distance from the nearest railway station, and the existence and name of the neighbouring inn, if any. There is abundance of such information in a scattered form in our professional journals, and in the fascinating papers read by the rambling architect; and I do not forget the more substantial work which the Architectural Association some time ago undertook and carried out for certain localities. Still, a complete and concise list would be of inestimable service to every one of us, and if divided into counties, each with a short introduction as to the county's leading architectural characteristics, and with a good index to the whole, would be of easy reference. It would be of special value to the student, who should, of course, be encouraged to go where he could study good architecture rather than redundant and often misapplied elaboration.

The President of the Royal Academy, in his recent discourse on Spanish art, devoted much of his attention to Spanish architecture, a difficult subject, but treated by him with perspicuity and breadth of view. The interest which his address awoke in me led me to visit Spain a month or two later, and to notice the justness of the conclusions arrived at by our distinguished honorary member, who has shown therein his grasp of the intricacies of our art. Spain is a country which all architects ought to see, though the difficulties of locomotion and hostelry are still such that few can hope for more than a partial acquaintance with its architectural wonders. For the reasons pointed out by Sir Frederic Leighton, the visit ought to be postponed until the student's views are formed, or he may be led away by much that is as pernicious as it is alluring.

Architectural Training.

A question is often asked as to the best mode of training a youth intended for the profession of architecture. How should the early days of one who intends to study architecture as a calling be spent to the best advantage? To such I reply: He should have received in his schooldays some preliminary training of a scientific as well as of an artistic character. He should learn early to understand and appreciate the beauties of a fine building,—of the civic and domestic edifices, the grand cathedrals and churches, the noble streets and open spaces, with which many a city in this country is endowed. He should be taken to museums of "comparative sculpture," such as the initiative of Viollet-le-Duc created in the Trocadero; and, in default of similarly arranged educational institutions at home, to the sculpture galleries of the British and the South Kensington Musenms. In fine, he should, in his early pliable days, be shown the works,—or casts or drawings of the works,—of the great architects of various countries, and thereby acquire an insight into the magnitude, the nobility of the career upon which he is about to enter. At the same time his ordinary education,—the ordinary education of an English gentleman,—should not be neglected. He must pass the matriculation examination of a university, or the local examination conducted under the authority of a university; or he must obtain some testimonials of proficiency granted by well-known educational bodies. Then, armed with such letters of introduction, he should come to the Royal Institute of British Architects, where I know that he will be cordially received; and thereupon, after the necessary inquiries as to his certificates and after examination of his powers of draughtsmanship, he will be admitted a Probationer. His name will be entered on the Register of the Institute as one intending to qualify for admission to the Class of Students, and afterwards to the Class of Associates, of the Institute.

His next proceeding is to be articled, say, for three years, to some practising architect on the conditions suggested in the form of articles which has recently been published,—a most important item of which states:—

"That, with the object of enabling the pupil to qualify himself for passing the examinations for studentship and associateship of the Royal Institute of British Architects, he, the Principal, shall and will allow the pupil such absence as he, the Principal, shall deem reasonable for the purpose of attending lectures, classes of instruction, and the said examinations."

During the term of his articles the pupil, or rather the probationer to whom I am alluding, will have to prepare the "testimonies of study" (described in the *R.I.B.A. Kalendar*), which he has to submit to the Board of Examiners before he can be admitted to the intermediate examination; and to assist him in the preparation of these "testimonies" in London he will, if properly advised, become a member of the Architectural Association, attend its classes, periodical visits to buildings, &c., and thus mix with others engaged in a similar course of study. During all this period, the reference library of the Institute is open to him, and he can borrow books not only from the lending library of the Association, but also from that of the Institute. At the end of his articles he passes the intermediate examination, is qualified as a student of the Royal Institute of British Architects, and his name and address are inserted in the Register of Members of the Institute, and published in our Kalendar. He afterwards competes for the prizes offered by the Association, and then for those offered by the Institute. He gains a prize, perhaps a studentship, which enables him to travel in France or Italy, or even as far as Greece. He returns to England, enters an office as assistant, prepares his probationary work for the final examination to qualify for candidature as Associate; he is admitted, he passes the examination, is registered Associate, and instead of being a mere stranger to those whom he will hereafter call his professional brethren, he is known to many of his elders, and counts among his contemporaries numerous friends. I confess, gentlemen, that this record of the younger days of an architectural student seems to me a fairly complete one. No President of this Institute, forty or even twenty years ago, could have told a similar tale. I remember nothing in my early days as a pupil which approached the facile and systematic training of the course now laid down by us for admission to our ranks—ranks which I think must ultimately include the entire profession of architecture in the United Kingdom.

I have endeavoured to describe what the education of the young architect should be upon existing lines. Possibly, in a not distant future, we may find it better to use a course of instruction somewhat analogous, let us say, to that pursued by Professor Ware* in New York, as a preparation for entering an architect's office, than that theoretical instruction of the sort just indicated should go on *pari passu* with pupilage. For a pupil to reap the full benefit of his time in an office, he should as soon as possible find himself set to practical work, and work of this sort in a busy age can hardly wait for one who spends a considerable portion of his time in abstract study. After his class work is once completed his powers will be so strengthened thereby as to allow of his entering upon office work with an intelligence unknown to the ordinary pupil of the present day, and his term of pupilage might be greatly shortened were it to follow rather than be contemporaneous with theoretic training.

The Architectural Association (London).

For many years the professional education of our pupils has been assisted by the well-directed efforts of the Architectural Association, which received a flattering encomium from Viollet-le-Duc in 1872, at a time when, numerically, it was not much more than half as strong a body as it is to-day. Its method consists in the members helping themselves and each other; and no better can be devised. The particulars of its *modus operandi* are all well known to you; but I must not omit to mention that the General Committee of the Association recently formulated a systematic course of instruction to meet the requirements of the Institute examinations, the programme of which course was to include the study of the principles of design and construction on the drawing-board in class,—a practice pursued in the Royal Academy schools with success. I hear, however, that this more complete system of instruction was not adopted by the general body of members of the Association, and that the inauguration of the scheme has been postponed.

I reiterate what I said last year from this chair, that the Institute should, if the way be made clear, give substantial aid to those who, during a long and prosperous period, have shown an earnest determination to help themselves. But how or in what manner this helping hand should be offered to the junior body—how it would be received, or whether it would be taken at all—are points which do not appear to have received due consideration from those most concerned. Are we to indirectly support the Architectural Association, when it has made up its mind as to what it would like to accomplish in the way of teaching, and when it asks the Institute for aid? Or are we to set on foot some corporate machinery of our own for the systematic instruction of those members of the Association and others who are studying to pass the progressive examinations of the Institute? These are vital questions, gentlemen, which demand our most serious attention; and I will attempt, with your permission, to lay before you a short statement of facts relating to them.

At the present moment the educational work done by the Association does not appear, from the statistics with which I am furnished, to afford any great material assistance to the Institute. The Association numbers 1,129 members, of whom 276 are also members of the Institute, and 40 more are probationers of the Institute. The total number of our probationers is already 164, and, as I have just said, of these only 40 are members of the Architectural Association. Again, the number of applicants admitted to the preliminary examinations to be held this month in Bristol, Glasgow, London, and Manchester, is 73, of whom only 10 are members of the Association; while not one of the 8 probationers admitted to the first intermediate examination in London is a member of the Association. One thing therefore is certain: the relative positions of the junior and senior bodies of our profession in the matter of recruits has undergone,

* I commend Professor Ware's Paper on "Instruction in Architecture," read before the Alumni Association of Columbia College, June, 1888, to those interested in the subject.

or at least is undergoing, a great and sensible change. The Institute has emerged from the state of a dilettante society into one of an eminently business-like kind, with recognised functions of a public as well as professional character. The Architectural Association, on its own showing, does not appear to possess at present the means to adequately fulfil the functions of a teaching body. In former days the architectural student first joined the Association, and then, in the course of years, the Institute. The position of affairs may now be said to be reversed. The aspirant's first thought is to qualify for registration as a probationer of the Institute; his next, perhaps, if he live in London, is to join the Association for the purpose of qualifying for the studentship, and afterwards for the associateship, of the Institute. Such being the case, it behoves us to look the new aspect of our relative positions in the face in a business-like way.

The General Committee and the subordinate Committees of the Architectural Association are largely, if not mainly, composed of members of the Institute; and the instructors in most of the classes are members of the Institute. The Association holds its general meetings in the Institute rooms; when its honorary secretaries apply for the use of a room in which to hold a class, the Institute lends one. Every member of the Association under twenty-three years of age has the use of both the reference and the lending libraries of the Institute; and any member over that age, if he ask permission, is allowed the use of the Institute library, which, as a matter of fact, is open all the year round to every architectural student properly recommended. The presidential addresses, and many of the papers delivered to the Association, are published in the Institute *Journal*, and the pages of our *Journal* are open to members of the Association on almost the same conditions as to members of the Institute. The President or a representative of the Association has a seat at the Council table of the Institute; in fact, it has the right, under our by-laws, to be there represented. The actual connexion between the junior and senior bodies is much closer, much more intimate, than the majority of those who talk about the subject are aware; and the Institute has never seen cause to regret the closeness of that connexion. It sees with interest and approval that the Association is asking itself the pertinent question whether the facilities it affords to students desirous of working in its classes are sufficient for the requirements of the time, and whether several things which involve considerable outlay of Association funds might not with advantage be abandoned with a view to augmenting the sum available for teaching purposes. At the present moment, in spite of the close connexion which exists between the Institute and the Association, in spite of the fact that we both inhabit the same building, the two bodies maintain two distinct libraries and two distinct registers of architects' assistants; the two bodies publish two distinct Kalendars and two distinct journals. Now, though fully alive to the advantages of healthy competition, especially to the young and aspiring, I question the utility of thus doubling our labours if not our expenses; and from a business point of view alone, I venture to urge upon the members of the Association the desirability of considering, in conjunction with the Institute, the present duplication of our expenditure and consequent division or diminution of our forces.

If I may be allowed to make a personal suggestion, and one in which I have had as yet no opportunity of consulting the Council of the Institute,—I should say, let us join, not divide, our forces, and in such a manner that, while maintaining the autonomy of each body, the Association might devote its funds more exclusively to teaching purposes. We already house the Association for its general meetings; why should we not house its library, leaving the administration of the same to its honorary officers? Why should we not combine the two registers of assistants in one, to be kept in the office of the Institute by a clerk, who should also answer the many and often unheeded applications that I understand are made on the subject of the Association, its membership, its classes, &c.? Why should we not include the *A.A. Brown Book* in our Annual Kalendar? Why should we not devote a definite portion of our journal to the able pens of the Association? Here, at least, are points which a joint Committee of the two bodies might well consider, and in suggesting them I have only to repeat that I do so on my own personal responsibility; and, further, that I have no thought or wish to see the two bodies, senior and junior, welded into one. On the contrary, any such amalgamation is impossible under the present constitution of the Institute; and, even were it possible, it is not, in my opinion, desirable in the interests of either the Institute or the Association.

I have been much struck with the excellence of the lectures which the Association obtains from its members and others. There was a paper read last session by Mr. Frank T. Baggallay on "Angles and Terminal Features," which was a well-considered essay on an important element of design. There was also one by Mr. Reginald T. Blomfield on "Drawing," which took a broad and masterly view of the art. The power of draughtsmanship exhibited of late by many a young architect is of such excellence that it ill becomes an old fogey to criticise it, and yet I would venture to emphasise what Mr. Blomfield advocated: that it would be well to consider before beginning a drawing what the qualities and impressions are we wish to perpetuate and convey to paper, never to draw a stroke which has not a definite purpose in view, and to avoid all conscious tricks and mannerisms. I would not discourage the delineation of cast shadows and reflected lights, for in them much of what is most delightful in the aspect of an architectural work depends; but the shadows should be as flat as possible, and the reflected lights as tender. The scratchy, unrestful style adopted by some who are otherwise masters of pen and pencil delineation, is in my opinion much to be deprecated, and a return to the brush would be desirable if such blemishes cannot otherwise be avoided. It would be well, also, if our students spent some of their energies in studying cloud forms and vegetable growth, as many an excellent architectural drawing is ruined by the introduction of clouds and trees which often mar otherwise attractive work.

Arts and Crafts.

The "Arts and Crafts" are still holding their annual exhibitions in the New Gallery, and doing the work which I cannot but think ought to have been done, and still would be done, by the Royal Academy of Arts, if it took a wider view of its mission, and gave itself to the hearty encouragement of all branches of art, instead of mainly to painting in oils, with scanty patronage of water-colour art, sculpture, and architecture, so far as the last can be illustrated by the pencil and brush. Its winter exhibitions of old masters have been hitherto of great value, but the supply of masterpieces belonging to those generous enough to lend them must in time become exhausted. I am, therefore, personally not without some hope that the future may find the Royal Academy inclined to look with favour on a winter exhibition which will embrace Art in all its forms, and which will do more for national art progress generally than a mere exhibition of pictures is likely to do. Meanwhile, let the younger members of our profession whose time and talents may not be fully occupied in the pursuit of architecture proper, devote themselves to the design of such things as are to be found in the Arts and Crafts Exhibitions, which, to be successful, must be designed on sound principles, for the observance of which the architect's training renders him peculiarly apt. The exhibitions in question are undoubtedly of great interest, but not as yet of such surpassing excellence in all their departments as to discourage earnest attempts to make them better. I feel persuaded that no body of men can apply themselves to such a task with better chance of success than architects, no work could be more useful in raising the art tone of the community, and in this way elevating the public appreciation of architecture itself.

The President and Council of the Arts and Crafts Society have been good enough to invite the Institute to visit their exhibition at the New Gallery, on the evening of Tuesday, the 11th inst., and the invitation has been cordially accepted. I hope to meet a large gathering of our members there, that we may discuss with the craftsmen whose works are there exhibited points of mutual interest and importance.

The Library.

It should be borne in mind that the prosperity of the Institute as a corporate body is not exclusively dependent upon the exertions of its members alone; it cannot afford to dispense with the goodwill of outsiders indirectly connected with the objects for which the Institute was founded. The list of donations made to our library in the course of the past session suffices to show that we possess many friends and supporters whose names are not included in our register of subscribing members, but who are, nevertheless, helpers in the good cause, and in the good work we have at heart. Monsieur Edmond Bonnaffé, of Paris, has presented his admirable work on the "French Furniture of the Sixteenth Century"; Monsieur Lucien Magne, the son of an architect distinguished for the works executed in Paris from his designs during the rebuilding of that capital under the Second Empire, has presented two folio works of his own on French architecture, recently published; Monsieur Planat regularly sends his "Encyclopædia of Architecture and Construction"; Herr Stier, of Stuttgart, has given us a magnificent folio of illustrations of buildings recently erected in Germany; Mr. William Scott, who duly passed the Voluntary Examination, but who now works in Venice, has given us some excellent views of that city, etched by himself; and Mr. J. Drayton Wyatt, who is well-known to most of us, is a determined contributor of rare and useful works and of valuable pamphlets. The late John Turner, a member of the Architectural Society, which in 1834 was absorbed in the Institute, but who never joined us, bequeathed some beautiful drawings and a most interesting MS. work of John Goldicutt, the first Hon. Secretary, with Professor Donaldson, of our body. Some conspicuous presents have also been received from members, notably, a large collection of Daniell's original drawings of Hindoostan, the gift of Mr. John D. Crace, which formed the subject of an interesting notice by Mr. William Simpson in our *Journal*; and a large illustrated folio work by Mr. Frederic Chancellor, of Chelmsford and London, on the "Sepulchral Monuments of Essex."

A French Architect on English Work.

One of the donors I have mentioned, Monsieur Lucien Magne, has recently written a criticism of the British architectural drawings exhibited last year in Paris. He thinks that our works are distinguished by their quality of picturesque composition, but they lack, he says, that original note which is the result of the proper appropriation of details and profiles to the desired effects of light and shade. Modern English architecture is of particular interest to our French confrère, in that it does not appear to be the expression of conventional teaching; but, on the contrary, a manifestation of particular wants. In the irregularity of plan, in the determination to give to each part of the façade a form resulting from the destination of each room within, Monsieur Magne sees a reminiscence of the traditions of our art in the Middle Ages and the early Renaissance. He then goes on to compare the design for the Imperial Institute with the majority of the compositions of the Pensionnaires-de-Rome, and says that in it Mr. Collcutt displays a liberty and boldness in his disposition of masses, an elegance in treating the silhouette of his building, which are not often to be found in the contemporary work of French architects. Such praise, coming from such a pen, is, of course, very gratifying to us; but it contains also a note of warning against the dangers attendant on the established teaching of architecture, not as a science but as an art. I hope we may carefully lay to heart the true lesson which our French confrère in so many generous words would instil,—not to lose our freedom and liberty in design by reviving the formulas of an architectural education conducted everywhere on the same lines. I do not think there is at present any danger of this. The exercise of our liberty grows with what it feeds on; indeed, it seems to tend in many cases to licence, and there are modern buildings in this country which display in their details a recklessness of what thoughtful men, with ordinary reasoning powers, consider appropriate.

Contemporary Works.

One of the dangers to be dreaded in alluding to contemporary work is that it may not have been my good fortune to have seen some of the best and most characteristic specimens of it, and that, therefore, mention of them may be unintentionally omitted. Speaking generally, I cannot help noticing a curious tendency in the work of some of the most esteemed of my con-

temporaries; the introduction in the same building of parts avowedly made to look as if designed by different people in different ages. We rightly appreciate the charm which is given to old buildings by the work of successive generations. The craze for the destruction of everything not of the original period of a building's history in its restoration has now happily passed away, and we are zealous to preserve the history written in the stones of our buildings as we find it, if there is no imperative reason for its removal. But surely that is a different thing from constructing fictitious history. If we cannot help being eclectic in some sort, ought we not at least to try to produce a harmony in our work, and leave it for others who shall come after us to introduce other styles and modes of detail? I feel it the more incumbent on me to say so, as having myself spontaneously sinned in this respect in my youth, and once or twice latterly at the instance of clients, who frequently, without due consideration to harmony and fitness, insist on the repetition of forms and details which have pleased them elsewhere.

The tendency of our work in this country at present is unquestionably towards smallness of parts: we strive for the picturesque rather than for grandeur, and lose much thereby. As an instance of a reaction against this tendency, I would venture to speak of Mr. Sedding's Sloane-street Church, with its two fine campanili, its magnificent windows, and its nave wider than that of St. Paul's Cathedral,—in fact, to the unusual aspect of breadth and space which he has imparted to the structural parts of this fine work.

Another instance of the dignity begotten of a broad and simple treatment, in the hands of a master like Mr. Norman Shaw, is the new central home of the Metropolitan Police. It is a building which forces itself on the attention, and gives pleasure in no ordinary way, however much the critics among us may think they could improve it in a detail here and there.

Mr. Pearson is to be congratulated on the magnificent effect of his new front to the north transept of Westminster Abbey. I am told it is nearly line for line what was there before, and yet the impression produced is very different. This difference arises not merely from the newness of the stone, but from a certain artistic piquancy and thirteenth-century flavour about it which the poor pared-down and sadly mutilated old skin certainly did not possess.

Westminster Abbey.

The Royal Commission on Westminster Abbey, convened to consider the building's capacity for further interments and monuments to the most illustrious of Her Majesty's subjects, has not yet reported progress; but I may here mention, as the inquiry has been a public one, that though there is room in the Abbey for some eighty more interments, there seems to be no more space for monuments without doing still further injury to it in the future than has been done so ruthlessly in the past. The objection to the removal or rearrangement of any of the monuments, however destructive to the general appearance of the interior of the Abbey, or revolting to the taste of the day, seems insuperable in the present state of public opinion, and under these circumstances various schemes for erecting a memorial chapel within the precincts of the Abbey have been laid before the Commission, and duly considered. They will shortly be reported upon. Unanimity, however, on such a subject is not to be expected; all that can be hoped for is to lay before Parliament and the public some scheme which will secure a fitting place of sepulture and memorial for the most illustrious of our fellow-countrymen, of sufficient space and dignity for the proper display of sculptured monuments, and at the same time so intimately connected with the Abbey itself as to partake of its prestige and worthily continue its traditions as the last resting-place of those amongst us held most in honour.

British Art Gallery.

It must be a matter of congratulation to every art-loving Englishman that, through the generosity of Mr. Tate, in presenting his splendid collection of pictures by our countrymen, under certain conditions, to the nation, we are at length to have the nucleus of a gallery devoted exclusively to the British school of painters and sculptors. It is true that these works will be at present poorly housed architecturally, though those best fitted to judge consider the galleries at South Kensington excellent as to light. It is to be hoped that in the near future some other munificient benefactor may arise, and by building them a fitting shrine associate his name with that of Mr. Tate and the masterpieces of British art, as the name of Mr. Alexander will be for ever associated with our National Portrait Gallery by what he is so generously doing for the nation under the able guidance of Mr. Christian.

St. Paul's Cathedral.

I have been invited, as your President, to say something about the painted decoration of St. Paul's. If I have hesitated to do this, it is chiefly because I do not know enough about the intentions of those who have charge of the work. The painting of the stonework near the reredos is at present obviously incomplete, and so it is impossible to judge of its ultimate effect; but few have shown themselves better fitted, by what they have done elsewhere, than Messrs. Bodley & Garner to advise in such a question. It is certain that Sir Christopher Wren painted in oil paint the walls of the nave and nave-aisles, and therefore some may say we have his authority for painting them again. It will hardly be questioned, however, that one of his motives for doing so was to avoid a worse evil: the disintegration of some of the stonework of the interior from damp. This, at any rate, seems to have been the case at the west end of the church; in the choir, I have been informed, distemper was used, which seems to indicate that, paint having been resorted to in part of the church, it was found necessary to bring the rest of the fabric into harmony with the painted part. When the cathedral was warmed with hot water, the coating of paint was no longer necessary as a preservative, and so it was removed and the colour wash removed with it. The stone has now a charming variety of tone, heightened in places by the white mortar in its pointing, and I think it a very grave question whether we shall ever get any painted decoration as satisfying as, or approaching in dignity and solemnity to, what we have now in the warm and varied tones of the masonry, smoke-begrimed and dingy though they undoubtedly are. Whatever may be thought of its sculpture, mounted on a red marble background, and relieved by partial gilding, the reredos appears to me in its architectural portions to be a work worthy of its surroundings; but I confess I am very jealous of its being treated as the keynote for the whole cathedral in point of colour, and should be inclined to question the advisability of any scheme of decoration which, in order to secure harmony throughout the whole building, would involve the repainting of the walls generally. If such renovation be determined upon, where is it to stop? Can it stop short of the western doorways? I am bound to admit, however, that the great architect of the building suggested such a treatment by what he himself did in its eastern extremity; though he, perhaps, here allowed himself, in the obscurity of the apse, a strength and contrast of colour which he may have felt would destroy the unity of the interior if carried down the choir and nave. On the other hand, were the plasterer's work in the vaulting relieved with gilding, the effect might be very charming, and without injury to the harmony of the interior. On leaving this subject, I repeat that I feel it a delicate task to criticise what very likely I do not understand in all its bearings; but I am very sure of this: that we as architects do not look upon the work going on in St. Paul's with apathy, but are, on the contrary, keenly alive to its importance, and are most anxious that nothing should be done to destroy the dignity and unity of what is perhaps the grandest Renaissance monument in Christendom.

The Use of Faience.

The increasing attention paid to the use of faience for internal decoration is a matter of much importance in our unfortunately dirty atmosphere. It enables the architect to insure that his more important apartments shall remain as he designed them. Most of us who have had long experience as practising architects must have been occasionally disconcerted in discovering that some interior which depended greatly on its harmony of colour, and which we may have thought more or less a success when it left our hands, had been handed over when in need of repainting to the tender mercies of some decorator, who, failing to appreciate the delicate scheme of colour upon which we had prided ourselves, or perhaps wishing to make his specialty more pronounced at the expense of the architecture of the room, had sown discord and vulgarity broadcast over our creation. Now, the use of faience would put a stop to all this. If well applied,—the forms specially designed, the colours, too, carefully studied, and violent contrasts avoided,—faience offers to the architect a new and most interesting field for permanent decoration. It seems almost impossible to be too careful in the juxtaposition of varied tints, as they look, of course, so much more violent in the building than when put side by side in the workshop. As an instance of the successful treatment of a ceiling in this material, I may be permitted to instance that of the Union Discount Company in Cornhill, just completed from the designs of our colleague, Mr. Macvicar Anderson.

Architects not Members of the Institute.

It is a matter of sincere regret that a few of our most distinguished brother-architects who are not members of our body look upon the Institute with apparent indifference and distrust. That certain names are not to be found among our list of members is a grief to me. I cannot, of course, say that they would confer any benefits upon themselves by joining us, except the benefit that all must derive from united action for a good and worthy object. We of the Institute are bound together by certain ties; but they are only such as make our practice respected by ourselves and by the public. We have no unworthy aims, and we do not want to shackle any man's right of liberty of action. None of the architects whose absence from our body I deplore would dream of doing anything which our by-laws forbid us to do. It is not, therefore, the dread of losing the complete liberty of action we all hold so highly which prevents their joining us. I trust we shall never give up the hope of seeing them within our ranks, never let them feel that their presence here would be anything but most welcome, and an encouragement to us to persevere in our endeavours to make the Institute the worthy upholder of our art. The Institute has already done good work, and we want them among us to enable it to do better. We want the leaven of their thoughts, and the help of their personal influence and example. Though they do not at present see their way to give it to us, let us at least ask ourselves what it is on our part to which they take exception. I confess I long to see the time when the Institute shall have so broadened its lines, if they want broadening, that all men who have any pretension to the name of architect, and who are willing to conform to the rules and obligations that are deemed essential to uphold the honour and dignity of our noble profession, will feel it incumbent upon them to join us, and help us to become better artists, more scientific constructors, more thorough men of business. The advancement of our art is not best attained, as it seems to me, by every man working in isolated retirement, and there can be no doubt about it that the occasional sight of each other in meetings such as these is productive of the kindly generous feeling with which we should all regard one another.

The dignity, the greatness of our profession arises from its responsibilities; and in this it differs from all other artistic vocations. The painter has only to please himself in the subject, the inception, and execution of his work. If, when finished, it is thoroughly successful work, in all likelihood it will find a purchaser. The architect, on the other hand, can find nothing to do, can give no satisfactory proof of his capacity until somebody comes to him who is willing to trust him. Consider what that trust is. Not only is he entrusted with the expenditure of large sums of money, but of money expended in such a way as to affect the comfort, the happiness, often the whole tone of the existence, of those who employ him. The client who employs a worthless and incompetent architect not merely throws his money away; he has to endure a far heavier misfortune. He has to live the rest of his days in a house, or worship in a church, or conduct his business in an office or a bank, which he would willingly erase from the face of the earth if he saw his way to such a termination to his disappointment. But practically his annoyance cannot so be put an end to. If the building he has commissioned be ugly, ill-contrived, and badly executed, so it

must remain,—a constant source of trouble to himself, of derision to his friends and the public. We have, therefore, to show ourselves worthy in every way to be trusted. We have to be sympathetic, putting ourselves, so far as we can, into the circumstances of our clients,—not leading them into unexpected expenditure, not, on the other hand, following their whims if our greater knowledge and experience tell us plainly that such a course will lead to disappointment: for what would be thought of the doctor who suffered his patient to dictate the nature and strength of the remedies to be prescribed? The architect, therefore, has to be not only an artist and a skilled constructor, but he must learn to appreciate the value of other people's money; he must be considerate, honest, patient, firm; and, above all, he must learn in imagination to put himself in the place of his clients, so as to understand their desires. If he were all this, I believe we should hear little of complaint against the profession. I believe we should be respected as we respect ourselves, each other, and our art, which ought to be to us the first consideration, entirely irrespective of material reward.

It is because this Institute is doing all that such a corporate body can do to elevate our profession and to give a higher tone to its practice, that I believe in its continued success. Its advance of late years has been very marked. It has not only grown in numbers, but it has fostered a higher standard of professional probity; and that alone is well worth all the trouble which many have taken in its affairs. Its efforts in the cause of architectural education have been already crowned with success, and we are only now on the threshold of that success; its continued prosperity will depend upon the exertions and the conduct of each of its members. May we all remember this, and do all that in us lies to further the increasing usefulness as well as the corporate interests of the Royal Institute of British Architects.

Professor Kerr rose at the conclusion of the address to propose a vote of thanks to the President. They would all agree, he said, that the address was one which deserved their special thanks for its peculiarly practical tone, going as it did to their hearts as men of business, and as artists and scientific men, in a way which, without any undue comparison, they had seldom experienced. The President occupied so exceedingly dignified a position in the profession, before the eyes of Europe, that every word he had addressed to them would be perused with interest all over the Continent, as well as in this country. At the same time, his discourse had been so peculiarly discursive, that it was quite impossible to make remarks upon it, even with a desire of assisting the good work which the address itself was calculated to effect. It was not the custom in that Institute to criticise the speech of the President, and he hoped it never would be the custom. But even were it customary to criticise the address, he did not know what one could find in it for criticism. He was not one of the school of critics with whom fault-finding was the essence of criticism. And if, on the other hand, he endeavoured to take the opposite course of supporting what had been so well said, it was difficult to see where one could find a subject to which the President had alluded which required support. With regard to the public action of the Institute, he was sure every member would agree that the Institute did not do enough before the public. The President had quoted a haphazard expression of his (the speaker's), which he was quite ready to defend, to the effect that "if Heaven made us Philistines, how can we help it?" He did not mean to say that Heaven had made the Royal Institute of British Architects Philistines. If Philistinism, as they all knew it, was not merely a bad habit, but really an inherent and constitutional taint in the character of the English people, all the greater was the need for those who were selected, who selected themselves, or who selected each other, for the purpose of dealing with this great industrial art, of historical eminence and importance, to do their duty towards the public whom they represented, and to endeavour to improve and ameliorate the Philistinism which was inborn in the land. The Government, unfortunately, was always a particularly Philistine institution. The reason for that it was not the time and place to enter upon, but many of them knew what the reason was, and it was not likely within any reasonable period of time that the habit of looking at everything as a matter of pounds, shillings, and pence, and nothing else, would be dropped at Whitehall. At the same time, the tendency of the public mind, at the present moment, was unquestionably in the direction of improving the artistic feeling of the country. The old-fashioned systems of thought were gradually disappearing. Some of them were old enough to distinctly recollect how very differently every artistic matter was treated a good many years ago. Many of those present, however, were at that happy age that they did not remember those things, and they would scarcely believe him if he were to relate what happened fifty years ago. But those who were young and had to look forward to what he hoped would be a prosperous and happy life would be astonished, perhaps, when they reached old age to find what a difference would have been accomplished between the thoughts of men at the present moment and the thoughts of men then. This country was destined to be a distinctly artistic country. There were evidences of that abroad in all directions. These evidences were distinctly to be seen in other lines than in their own and by themselves, and he believed there were those present who were destined to hold prominent places in the advancement of the new school of art and artistic criticism, which would be a credit to the land in which they lived. He had, therefore, much pleasure in proposing a most cordial vote of thanks to their distinguished President for the discourse to which they had listened with so much pleasure that evening. Mr. W. White, F.S.A., seconded the vote of thanks, which, on being put to the meeting, was carried by acclamation.

The President, in replying, said he hoped from his heart that Professor Kerr's prophesy would be fulfilled.

The proceedings then terminated.

THE ART CONGRESS AT BIRMINGHAM:

PRESIDENTIAL ADDRESS IN THE SECTION OF ARCHITECTURE.

THE Birmingham Congress of the National Association for the Advancement of Art, and its Application to Industry, commenced on Tuesday, under the Presidency of Mr. J. E. Hodgson, R.A.

On Wednesday, in the Section of Architecture, Mr. T. G. Jackson, M.A., F.S.A., the President of the Section, delivered the following address:—

In these days, when more is said and written about art than at any other time in the world's history; when art has become fashionable, which, be it remembered, is a very different thing from becoming popular; when, instead of sitting like Cinderella in the ashes, she walks, as John Bunyan says of fashionable religion, "in her silver slippers"; and when, amid all the loose talk and easy cant which flows so abundantly from the lips of every disciple of culture, artists begin to wonder when society will let them and their craft alone, and instead of talking and theorising about the art of the day, sit down and simply try to enjoy it; it was a happy thought of the Council of this National Art Congress to bind us down to one particular branch of the subject instead of leaving us to range at will over the whole of it.

Our attention this year is directed to education,—artistic education,—and that, it may be assumed, not only of the artists themselves, but of the public at large. In that particular branch of art about which I am asked to address you, we are invited to inquire whether we are going the right way to form good architects; whether anything can be done to teach people generally how to appreciate good architecture and to know it from bad; and, further, how we are to arouse their interest in the subject, so as to make them discontented unless they can surround themselves with architecture really worthy of the name.

That things are not as they should be in either respect may be taken as granted on all sides, for otherwise there would be no sense in our being here to-day to discuss the matter. It is, unhappily, beyond dispute that most people are ignorant of the true canons of architectural taste, and perfectly content with the most deplorable architecture, provided the building be showy and comfortable. A walk through the streets of London or any of our great cities, or even along our country lanes and meadows, is enough to convince us that to the average Englishman or Englishwoman good architecture and bad are as one. Unless the public taste were satisfied, such architectural horrors as abound on all sides would not be endured. And, again, on the other hand, they would not have been there to offend us unless the majority of architects, so-called, were ignorant of their craft, or, in other words, unless their education were defective and misdirected.

Let us, then, first take the case of the artists, and trace the career of a young man who wishes to become an architect, in order to find out what is wanting in it, and how the present way of training him may be bettered. This education is a matter about which there is no lack of literature, for it has, of late, formed the principal topic of the architectural societies and the theme of leading articles in the architectural papers. One lecturer is at the pains to trace the studies of the young aspirant almost from the cradle, and sees him at his spelling-book and dictation,—we need not go back so far. A theological professor once began a course of lectures with the words, "We will assume the doctrine of the fall of man;" we will take a similar liberty, and assume the student to have had the ordinary education of his class. He now wants the technical teaching necessary to our craft, and to that end, in accordance with the usual practice, he enters an architect's office as an articled pupil or apprentice. There he stays for three years or more, and at the end of his time he is supposed to be able and qualified, and in favourable cases really is so, to undertake such simple work as his friends may have the courage to entrust to him.

Now the good he will have got as a pupil obviously depends on two things,—his own industry and the choice he has made of a master. Pupils sometimes go through their time without learning anything. I remember one case where the pupil of a well-known architect began by tracing drawings, and, being an easy-going youth, devoid of ambition, went on tracing drawings all his time, and left off as ignorant as he began. I remember another case where a young man went into an office where there was little or no work going on, so that, though he had no lack of industry and was anxious to learn, he came away knowing no more than when he went. Such cases of what one can only call gross dishonesty are, I fear, by no means uncommon, and it is unnecessary for me to characterise them further. But in cases where the pupil is eager to learn, and enters an office where there is plenty of work going on of a high character, I can imagine no better way of teaching him how the designing and construction of a building is carried through, and of qualifying him to do it when his own turn comes. He gets there what he could get nowhere else. Draughtsmanship and the principles of building construction may be learned in a science and art school, but there is all the difference in the world between drawing out plans of buildings that will exist only on paper, in which blunders will do no harm, and making drawings which are to be put into the hands of workmen to be really carried out, and which must be right, or else disaster will follow. There is no comparison between the educational value of the two; the difference is as great as that between a review and a battle. It is only in an architect's office that the student can learn how a building is carried out from beginning to end, what drawings and specifications are required to explain the design to workmen, how to meet and overcome unexpected difficulties of arrangement and construction, how to economise materials and labour, and, lastly, what is of no little importance, he there sees something of the professional side of an architect's work, and learns how a business is managed, and work superintended from a distance. Still more important is the opportunity he enjoys of cultivating his taste by seeing good work done, and taking part in the doing of it, if he has chosen wisely and put himself under one who is a master of his craft. Above all, perhaps, when I look back to my own time of pupilage, I should be disposed to rank the benefit of associating with the fellow-students and draughtsmen whom he finds there, among whom debate and criticism run furiously high; opinions are freely expressed, none the less confidently for being immature, artistic reputations are madly exalted to heroic heights or ruthlessly pulled down to unmerited degradation, and designs of all but the idol of the hour are mercilessly

picked to pieces, those of the master himself by no means escaping unscathed. In the keen fire of these ardent little societies the pupil finds the same opportunity of shaping, tempering, and sharpening his views of art which exists in the larger societies of a foreign atelier; but he has the inestimable advantage, on which I have already touched, that he is engaged on real work and not on paper exercises.

But highly as I am disposed to rate this system of apprenticeship, which is, in fact, the way in which all the sculptors, architects, and painters of the past learned their crafts in the palmy days of art, it is clear that the pupil will not find in it all that he wants. He will see in his master's office only the kind of work that happens to be going on, and will have to supplement it by private study. He must read books on construction, drainage, and what, for want of a sensible name, is called sanitation, ventilation, heating, and other practical building works, which are not architecture, but nevertheless underlie all architecture, and for which, if they are neglected, no architectural excellence will compensate. That an architect must be master of these practical matter goes without saying. They are elements of good building, and good building must precede good architecture, and form the foundation of it; for history teaches us that it was by honestly meeting the necessities and suggestions of building construction that the different styles of architecture in the past were shaped into what we see them, and there is no doubt that if any new style should arise in the future it will owe its existence, and its peculiar character, to a similar reason.

But to these practical studies the architect must add that which is to make him an artist, and to that end he has to take into consideration not only the current art of the day, but that of the past. Art under its present conditions has its literary and historical side, and he will have to study this independently of the work of the office, by reading and by visiting ancient buildings. Sketching must always form a principal part of an architect's education; and living, as we do, in an age with no vernacular style of its own, we naturally look to the work of former ages, which were happier in this respect. It is generally, and rightly, thought essential that the student should travel widely and sketch largely from old buildings, measuring and studying them in detail, and so forming his taste and adding to his resources. The great builders of bygone times are still our masters; we are bound to acquaint ourselves to a greater or less extent with all the styles of the past, and, as I think, for purposes of practical utility, to study in particular those of mediæval and modern Europe which are nearest to us historically, ethnically, and socially, and which, therefore, most concern us. Above all, as Englishmen, it must be ours to know best the native styles of our own country, styles that will safely bear comparison with those of any other land, and in which, if anywhere, lies dormant the germ of that future living national architecture which is so long in coming to the birth.

But sketching has its snares and pit-falls. In his anxiety to acquire a happy touch with the pencil or brush, and to fill as many sketch-books as his companions, the student will often forget the reason why he should sketch at all, and will make the production of drawings his object instead of the knowledge of his craft to which they should be instrumental. His business should be to study a beautiful building when he finds it, by analysing it carefully, dissecting it, and finding out why it pleases him. This means a good deal more than simply sitting down and sketching it. I do not say he should not sketch pictorially as well; on the contrary, I would have every architect able to produce sketches that would not only be useful as records of facts, but also beautiful as drawings. But remember this, that making pretty drawings will never teach you to be an architect; so far as that is concerned you may as well burn them as fast as you do them. In after days when, in want of an idea o ie turns over a sketch-book or portfolio of finished drawings, how rarely does one get a suggestion to help one out of one's difficulty? It is from the brief analytical notes made never to meet the eye of another, rough dimensions of proportions, of mass, of the scale of details, and memoranda of modes of construction that one gets the hint one wants. Only let whatever you draw, however slight, be drawn well and truly; let it be right as far as it goes, and artistically expressed within its own limits. And yet after all the great value of sketching is not the sketch but the doing it. Its main use is educational. It is by drawing beautiful things, or parts of them, that one learns to understand them. So studied, they are never forgotten, and though the sketches may be thrown aside and never looked at again, which will in most cases be their fate, their good remains behind stored in the treasure-house of the memory.

And now to turn from artistic or freehand drawing to mechanical drawing, which forms so large a part of an architect's work that many seem to think it begins and ends there. Neat geometrical draughtsmanship up to a certain point has its use, but very often a great deal too much stress is laid upon it. It is easily acquired, being purely a mechanical art; and as it makes no demand on the artistic sense, any dullard can excel in it. The highly-finished look of elaborate geometrical drawings takes in the vulgar, with whom they pass muster as beautiful works of art. But what is the real use of geometrical drawing? Clearly not to be beautiful,—that is nothing to the point; they are merely diagrams made for use, in order to explain to workmen and others how things are to be made. They have no other use or object than that. It is clear they can have no artistic value, because they are absolutely unnatural. Regarded as true pictures of what they stand for they are barbarous and absurd; whatever else the future building will look like, we know that it will not look like that. As drawings they have no value, and cannot fairly be criticised at all from that point of view. They have but one standard of merit—that of accuracy. They need not, and should not, be slovenly; but, so long as they are accurate and clear, and, above all, intelligible, so that the workman may be able to follow them without blundering, that is all that should be expected of them, and any further elaboration is perfectly idle and absurd. It is appalling to think of the labour thrown away in our offices in smartening up plans and elevations. An immense amount of mischief is done in art schools throughout the country by encouraging students to think that highly-finished and shaded geometrical drawing is an accomplishment worth years of study, and by making proficiency in the manufacture of such drawings the ground on which the national prizes in the Department of Science and Art are awarded. The architectural drawings sent up to South Kensington from the various art schools throughout the land, and still more those produced by architectural students in France and Austria and other Continental countries, where this sort of finish is valued even more highly than with us, are often miracles of misdirected dexterity; the elevations are elaborately shaded, the columns carefully rounded, cast shadows are logically projected at an angle of 45 degrees, breaking correctly round every projection, reflected lights are carefully observed, and all the tricks of mechanical draughtsmanship exhausted, while the only thing forgotten is the architecture itself, all this labour being frequently bestowed on a design which is beneath contempt. The worst of it is that the student learns to think these geometrical exercises, which, as I have said, must from their very nature be mere mechanical performances, are really works of art, and that by learning to produce them he is really learning architecture. If the schools of art think that by training lads in this way they are qualifying them to be useful assistants in an architect's office, it is high time they were undeceived. A lad would be of far more use to us who had spent his time in learning building construction, and had been taught that the only use of geometrical drawing is to explain the construction of a building to the workmen, so that they may measure it with rule and compass, and cut their stone and wood and lay their bricks accordingly. Let the pupils be reminded that, as no one will build the shadows they so ingeniously project, there is no use in projecting them. Let them be told "the mason will not make his columns any the rounder because you stipple them up with light side, dark side, and reflected light; and one sectional line drawn across your elevation will be of more service to the workman than all the shading in the world, and for that reason will be more proper, however much in vulgar estimation it might be thought to disfigure your drawing." After all, it is the public who are to blame for the false value attached to this kind of drawing: architects would not get up their drawings with this expensive and unnecessary elaboration unless they found that, with most unprofessional critics, the execution of the drawings carried more weight than the merit of the design; and it is quite certain that in a competition, no design, however good, would have a chance of success unless the drawings were finished with all the tricks of the mechanical draughtsman, far beyond what was necessary to make the design intelligible.

Let us, then, suppose the would-be architect to have acquired a fair knowledge of practical construction, and of the mode of making drawings for workmen to work from, and also some skill in freehand drawing, so as to be able to sketch with facility, and express his ideas readily on paper, both for his own use, and to convey his meaning to others. He has, we will suppose, done a great many sketches of old buildings, and acquainted himself tolerably well with the history of architecture, and the succession of styles. Is he now furnished for his flight, and ready to take wing as a full-fledged architect? So, no doubt, many people would think, and unhappily this is, often enough, all the education he gets. But to those who understand what architecture has been, and may be again if proper measures are taken, this will seem but the beginning of a real art education,—the mere familiarising oneself with the tools with which the real work is to be done. Of all arts, architecture is the most practical; it can never be mastered from books and drawings. The lore thus stored up must be digested and assimilated, or it will never nourish our artistic nature. Our knowledge of ancient styles will result in mere antiquarianism, unless we apply it to the conditions of modern life. As artists, our business is not to study, but to create; not to admire and reproduce the work of other days, but to produce work of our own for others to admire and profit by in their turn. We shall never do this by sitting at our drawing tables and scattering our designs thence among the workmen through the penny post. An architect's work is the direction of a variety of handicrafts, to none of which he has himself been trained. All the more necessary, therefore, is it for him to know enough about them to be able, in the first place, to design his work so that it can be made at all; and next, so that it can be made without needless trouble and expense. This knowledge he can only acquire in the workshop, and on the building; books will never teach it; and the student cannot begin too soon to frequent the masons' sheds and the carpenters' shops. I would have every young man during his pupilage, or at the end of it, pass a few months under a clerk of works at some building, best of all on one for which he has been making drawings in the office, so that he may see how his work on paper looks when realised in stone or wood. This is an education that never ends; as necessary for the architect as for the pupil; for it is by watching our own work, and that of our brother artists, that we learn how to improve our style; and so, if we are good for anything at all, we go on learning something fresh, and gaining fresh power of design to our dying day.

It is in this *rapprochement* of architecture to the handicrafts,—of the architect to the craftsman,—that I see the only opening by which we are likely to make any sensible progress. The need of it is the more obvious when we consider the extent of what an architect is now required to do. Happily, the day has gone by when his work was supposed to begin and end with the bricklaying, the carpentry, and the drains. No architect who respects himself and pretends to the character of an artist, will now resign the decoration of his building to other hands. Architecture pure and simple, robbed of her attributes, is not enough to satisfy him; he will never be content to let others finish what he has roughed out; he will conceive his building as a whole, harmonious and consistent in all its parts, in the smallest details as well as in the general mass; and we have only to turn to experience to see that this is the right view for him to take. The only modern buildings which command the respect of competent judges are those that have been carried out on this principle. Whatever may have been the case in former days, there is now, under the present condition of art, no other road to excellence. When every man works in a way of his own, and there is no such thing as a vernacular style in which every artist naturally expresses himself, the architect is the only element of unity in the building; and

unless his handiwork can be traced throughout it will be no better than a museum of odds and ends, and a collection of jarring discords. The architect of to-day, therefore, is expected to be able to design everything, from the building itself down to its furniture, and to work in all kinds of materials, from marble to stone, from stone to wood, and from wood to iron. He must understand colour as well as form, and be able to design not only the carving on his walls, but the needlework of the hangings, the wrought-ironwork of the gates and screens and railings, and all the metalwork down to the hinges, locks, handles, and finger-plates of his doors. But in order to design successfully in so many handicrafts, it is necessary that he should understand the technical difficulties and the possibilities of everyone of them. If he fails to do this, his design will either result in complete failure, or in unnecessary and extravagant expense; he will either set the workmen to do impossibilities, or, at the best, waste their labour by giving them difficulties to get over which anyone who understood the technique of the craft in question would never have put in their way. Let me, by way of illustration, give you a blunder of my own. I had designed a rather delicate ironwork grille, with interlacing rods threaded through one another in a way well-known in old German and Italian examples. To make this, the smith has to weld some of the rods at short distances between the eyes through which they are threaded, also to open some of the eyes and weld, or "shut," them down again. This grille was made successfully. Some time after, when designing another piece of ironwork in which the same feature of interlacing rods occurred, I thought the effect would be better if the mesh of the interlaced part were smaller, and therefore reduced each square opening about $\frac{1}{8}$ in. After the smith had had the work in his hands a little time, it occurred to me to go and watch him at work in order to see exactly how he did it, and then I found that this $\frac{1}{8}$ in. reduction had simply made a possible task impossible, by leaving him no room to make his weld, so that only about half the eyes could be welded, and the rest had to be merely closed down. Now, the British workman never likes to be beaten, and if you give him an impossibility he will manage to get over it somehow or other, and very likely you will never hear anything about it. But this makes it no better:—it should be the architect's business to design in such a way that no unnecessary difficulties occur, and that everything may be done by the natural and usual processes of the craft in question; and this he can only do by mastering the technical methods of work in each instance, by seeing the thing made, and consulting the workpeople who have to make it.

There is another way in which closer contact with the handicrafts and handicraftsmen will be of use to the architect; nothing perhaps will do more to cure him of that tendency to antiquarianism, which is one of our besetting sins. The care and repair of ancient buildings, the study of the vast literature of which they form the subject, the habit of looking to them for examples of style, and taking them for our models, and the amount of antiquarian knowledge which is indispensable to us in the exercise of our calling, all tend to blind us to the real use of ancient example, and to make us think that our goal is the revival of ancient architecture, and not that of architecture itself. No mistake can be more fatal to the progress of art than this. Without denying the beauty of some of the best modern work which professedly imitates, and indeed imitates only too well, the work of the Middle Ages, it is, I think, evident that it is unfruitful and can lead to nothing further. Old work should be studied, not because it is old, but because it is good. The glamour of historical association must be ignored, and ancient architecture should be analysed and criticised as freely as if it were modern,—and nothing will do more to encourage this modern way of looking at art than familiarity with actual handicraft. It is in seeing a thing done, or, better still, doing it oneself, that new ways of doing it suggest themselves, and so a step onward is gained. It is in the workshop that the art-student, be he architect or what else, will find the readiest stimulus to his fancy and the best antidote for a slavish adherence to precedent. It is essential that he should be able to handle the modelling clay, if he wishes to get his carving done to his mind; and if he could wield the hammer and forge an iron scroll, so much the better. I can testify from personal experience that something may be learned even by so humble an exercise as building a brick wall. The day has gone by when architecture was believed to be produced with compasses and T-square. The cry of the day among artists, and the theme of most of the speakers at the two preceding National Art Congresses, is the solidarity of art, the kinship of architecture, painting, and sculpture, as three modes of saying the same thing, three vehicles of artistic expression that ought never to have been forced asunder, and cannot thrive apart. It is the healthiest sign of the day that this intercommunion of the arts and artists is gaining ground, and that the number of men is increasing who can design not only the building but also its decoration, and not only the decoration, but also the building itself. Let the architectural student lose no chance of associating himself with art students of all kinds, not only his fellow-architects, for discussion and interchange of ideas. Why should not a large town like Birmingham have something like the Art Workers' Guild in London, a club of artists of every kind, painters, sculptors, architects, painters on glass, furniture-makers, bookbinders, engravers, and half-a-dozen other varieties, who meet together once a fortnight to hear papers on each craft in turn from its own craftsmen, accompanied, when possible, by practical demonstrations, and followed by a general discussion in which men of all branches of art freely engage? And why should not the industries of Birmingham result in a local exhibition like that of the Arts and Crafts now open in London, when artists of all kinds meet on the common ground of design, and when the individuality of the craftsman is not hidden behind the name of the firm that employs him?

This, then, is the education by which I would have our young architects trained for their work; not one that begins and ends on the office stool on which he perches as a pupil, and with mastering the principles of construction as explained in books and drawings, but one supplemented by reading, by sketching, by thinking, by following his work into the workshop or to the building, by constant communion with other artists, and last, though not least, by learning to model, and above all to draw the figure from casts and from life, as the root and key of all decorative design and the centre of all art education.*

COMPETITIONS.

THE PROPOSED BATTERSEA POLYTECHNIC.—The Committee of the South London Polytechnic Institutes have, with the advice and assistance of their Consulting Architect, Mr. Rowland Plumbe, F.R.I.B.A., just selected six sets of drawings from the fifteen sent them in the preliminary competition for a design for the proposed Battersea Polytechnic. The authors of the six selected designs have been invited to take part in a final competition in which the drawings will be made to an enlarged scale, viz., $\frac{1}{4}$ in. scale to a foot in lieu of $\frac{1}{16}$ in. to a foot scale in the preliminary competition. The six successful competitors are Mr. John Belcher, F.R.I.B.A., Messrs. Henman & Harrison, Mr. E. W. Mountford, Messrs. Roger Smith, Son, & Gale, Mr. J. Osborne Smith, and Mr. Sidney R. Smith. The proposed Polytechnic is to cost a sum of 40,000*l.*, and will be erected on a site of about two acres facing the Battersea Park-road. In order to complete the committee's scheme, and fit up the Institute when built, a sum of nearly 10,000*l.* is still required. The date for sending in drawings in the final competition is (as at present fixed) January 21 next.

PUBLIC BATHS AT CAMBERWELL. — We hear that the professional referee in this competition, Mr. Charles Barry, F.S.A., has recommended the design of Messrs. Spalding & Cross for the public baths on the Camberwell-green site, and that it has been adopted by the Camberwell Baths Commissioners. The estimated cost of the building is about 24,000*l.*

WESLEYAN CHAPEL AND SUNDAY SCHOOL, MELLOR, NEAR BLACKBURN.—We are informed that in a limited competition for the above chapel and school, the design of Mr. Walter Barrow, of Preston, has been accepted.

* We will print the remainder of Mr. Jackson's address, and other proceedings of the Congress, in our next. Another paper read before the Architectural Section of the Congress, by Mr. H. H. Statham, appears on pp. 367-69.

Illustrations.

THE NEW "DRESDENER BANK" BUILDING, BERLIN.

THE new building of the "Dresdener Bank," situated most advantageously on a corner site, with main front looking on to the Opera Place, has been erected for the purpose of furnishing ample and dignified office room for carrying on the lately much enlarged business, in which a staff of upwards of 300 persons is employed.

The new building as it now stands has a ground floor and a first floor devoted entirely to public despatch business, offices, and board; a basement, in which the strong rooms and the vaults of the "safe deposit" are situated; and a second floor, containing some of the head officials' residences, each part independent in itself. The main feature of the interior is a central hall, on three sides of which the counters of the general cashier, the security and coupon departments, have been placed, these being backed by their respective offices, and at the same time being in close connexion with the Stock Exchange department on the one side and with the otherwise quite independent exchange-office and deposit department on the other. On the first floor, looking towards the front, easily attainable by main and side staircases, have been placed the board-room, together with the reception-rooms, and private offices of the managers; and in close connexion with this administrative department, situated on the same floor, extensive accommodation for the secretaries, corresponding clerks, and book-keepers has been planned. The strong room of the bank proper, having its position in the basement below the central hall, is constructed entirely of steel plates, and resembles an enormous double box, the room between the sides of which is used as a patrol way for the night watchmen; it is so placed that it can only be entered after passing through the security vaults, situated on the same level, and these again only by means of a special staircase from the security department.

The façades are of a Saxon freestone with a Bavarian granite base, and the style of design is a very typical example of the modern Berlin architecture; monumental but somewhat cold and formal. The frieze, showing the *motif* "work," from the ideal as well as practical point of view, and the central sculpture illustrating "The Justice of Fortune," were executed by Herr Geiger. The architect is Herr L. Heim.

DESIGN FOR COMPLETION OF HOLY TRINITY CHURCH, CORK.

THIS design for a tower to Holy Trinity Church, Cork, was submitted in competition by Mr. Thos. Drew, of the Royal Hibernian Academy, the object of the competition being a memorial to Father Mathew.

The design was unsuccessful in the competition, but we are glad to publish it as the work of a well-known and talented architect of the sister island (if one is still to be allowed to call Ireland so).

DECORATION FOR A RECEPTION-ROOM.

THIS design was made along with others for the decoration of a house in Buenos Ayres, and has been carried out in rosewood inlaid with box, with silk panels above and a painted frieze. The artist is Mr. Roland Hill, of London.

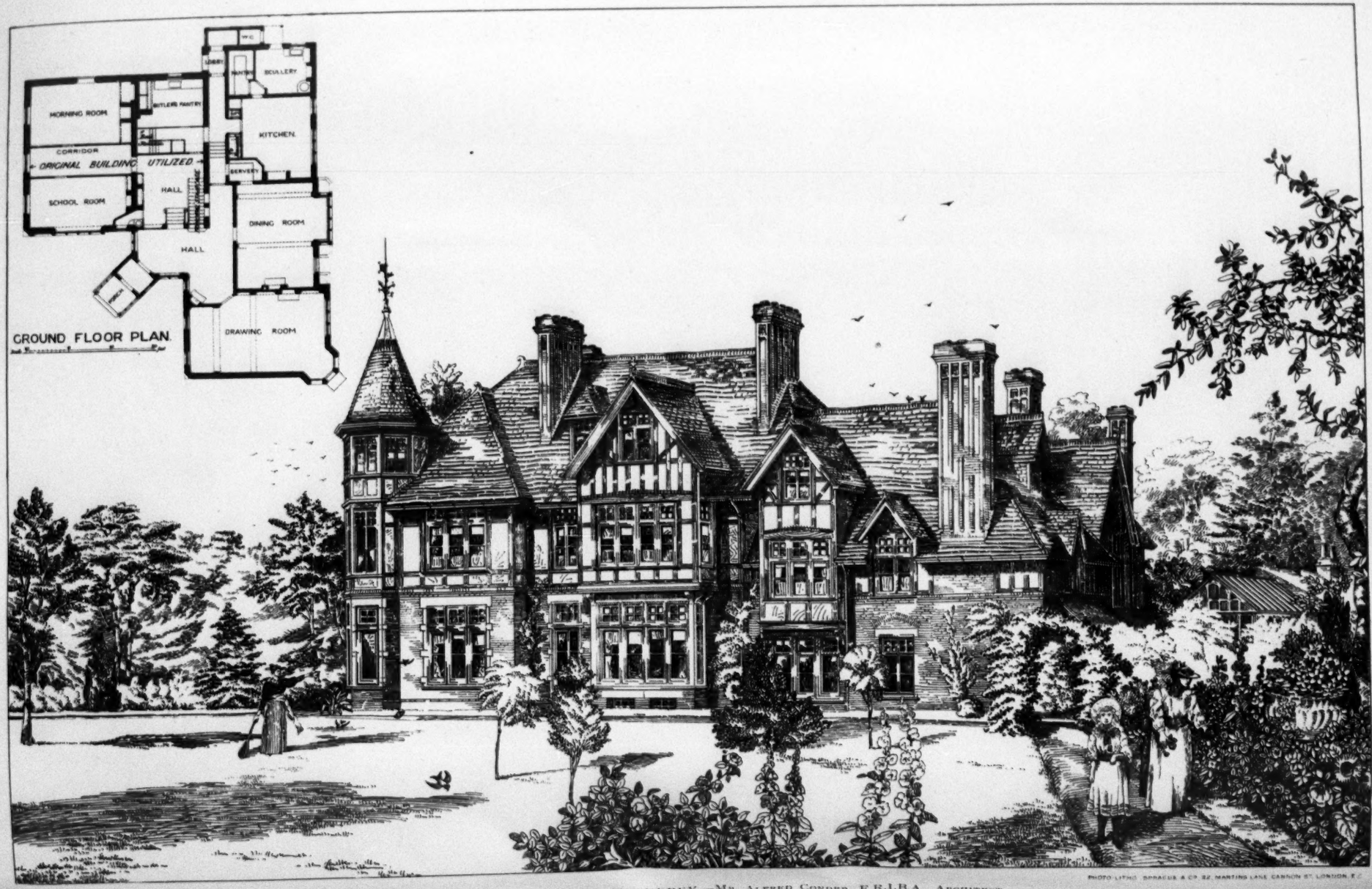
NORWICH CATHEDRAL: INTERIOR VIEW FROM THE NORTH TRANSEPT.

THIS is a view taken nearly under the north arch of the crossing at Norwich, showing one of the transitional piers and the triforium arcade beyond, with the late clearstory and vaulting above.

The original drawing, by Mr. A. D. Smith, was exhibited in the Royal Academy this year.

TUPWOOD LODGE, CATERHAM, SURREY.

A SMALL residence formerly occupied the site, and this has been incorporated in the new building, but the old structure is not left visible externally. The walls are of red brick, with half-timbered work for the upper stories, and the roof is covered with Broseley tiles.

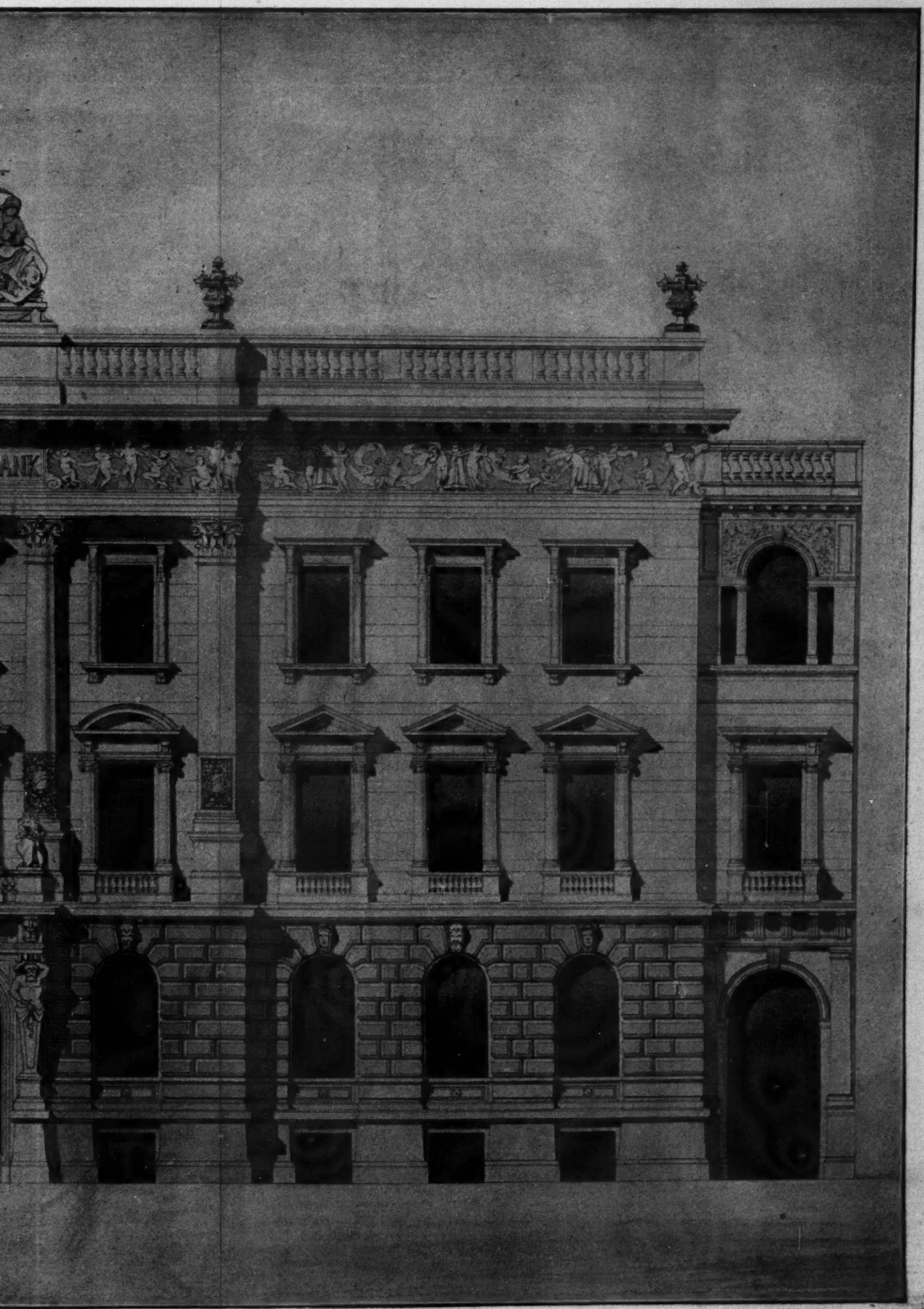


TUPWOOD LODGE, CATERHAM, SURREY.—Mr. Alfred Conder, F.R.I.B.A., Architect.

PHOTO-LITHO. SPRAGUE & Co. 32, MARTINS LANE CANNON ST. LONDON, E.C.

DESIGN FOR DECORATION OF A RECEPTION ROOM.—Mr. Roland Hill, Architect.

THE NEW "DRESDEN BANK," BERLI



BERLIN.—Herr L. Heim, Architect.

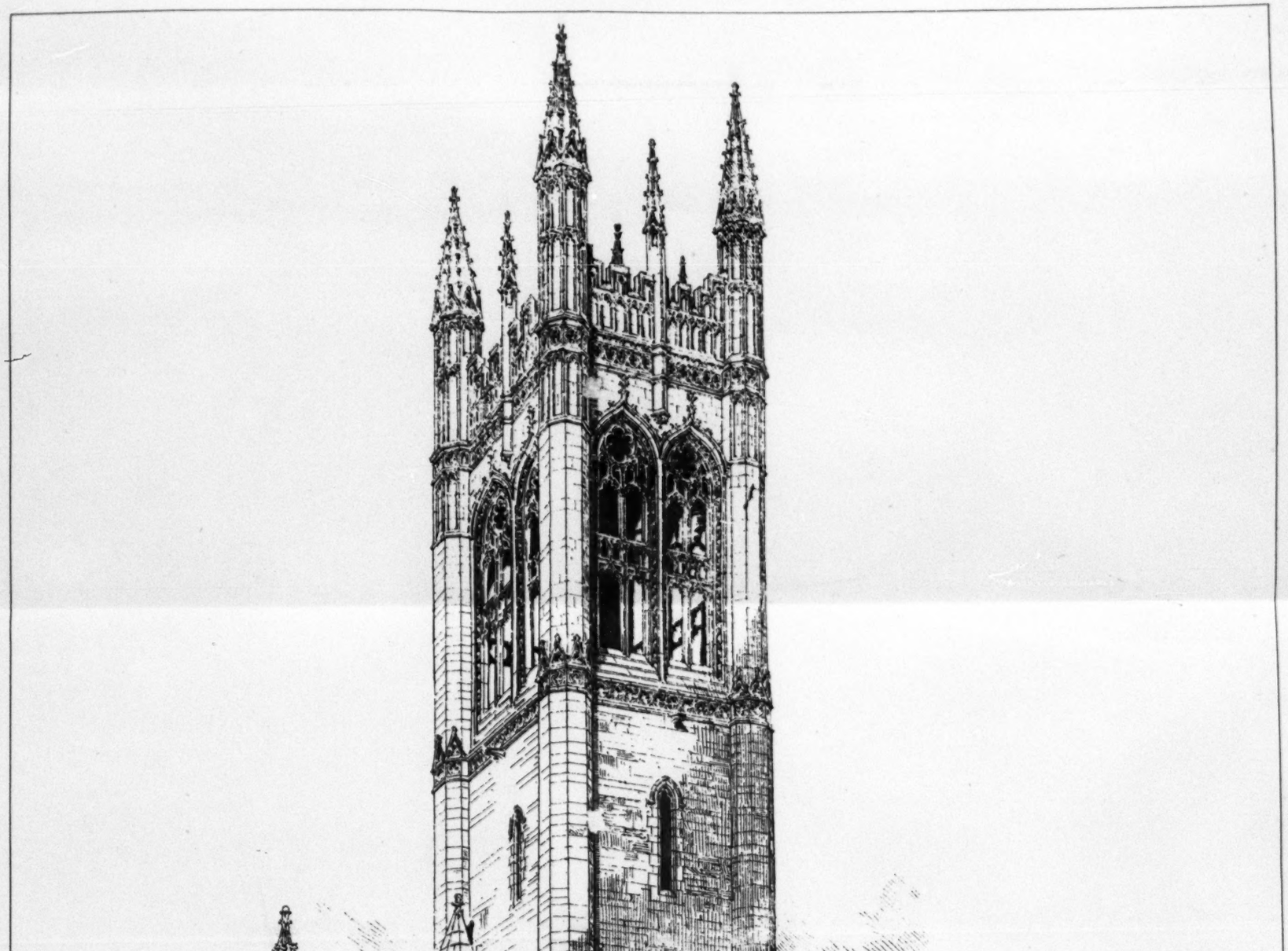
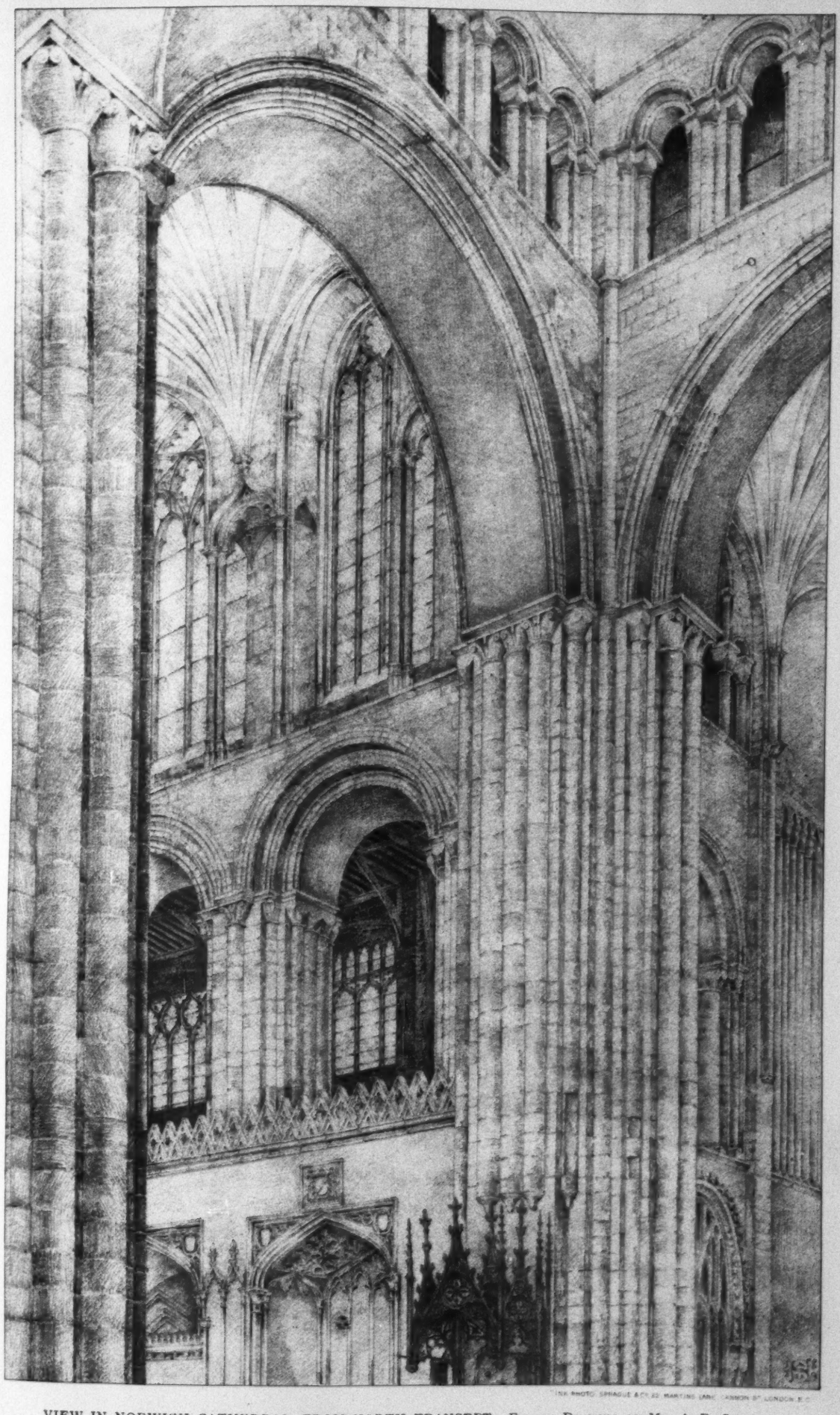


PHOTO-LITHO. SPRAGUE & CO. 62 MARTIN'S LANE CANNON ST. LONDON, E.C.

COMPETITION DESIGN FOR COMPLETION OF HOLY TRINITY CHURCH, CORK.—By Mr. Thos. Drew, F.R.I.B.A.



VIEW IN NORWICH CATHEDRAL, FROM NORTH TRANSEPT.—From a Drawing by Mr. A. D. Smith.

Royal Academy Exhibition, 1890.

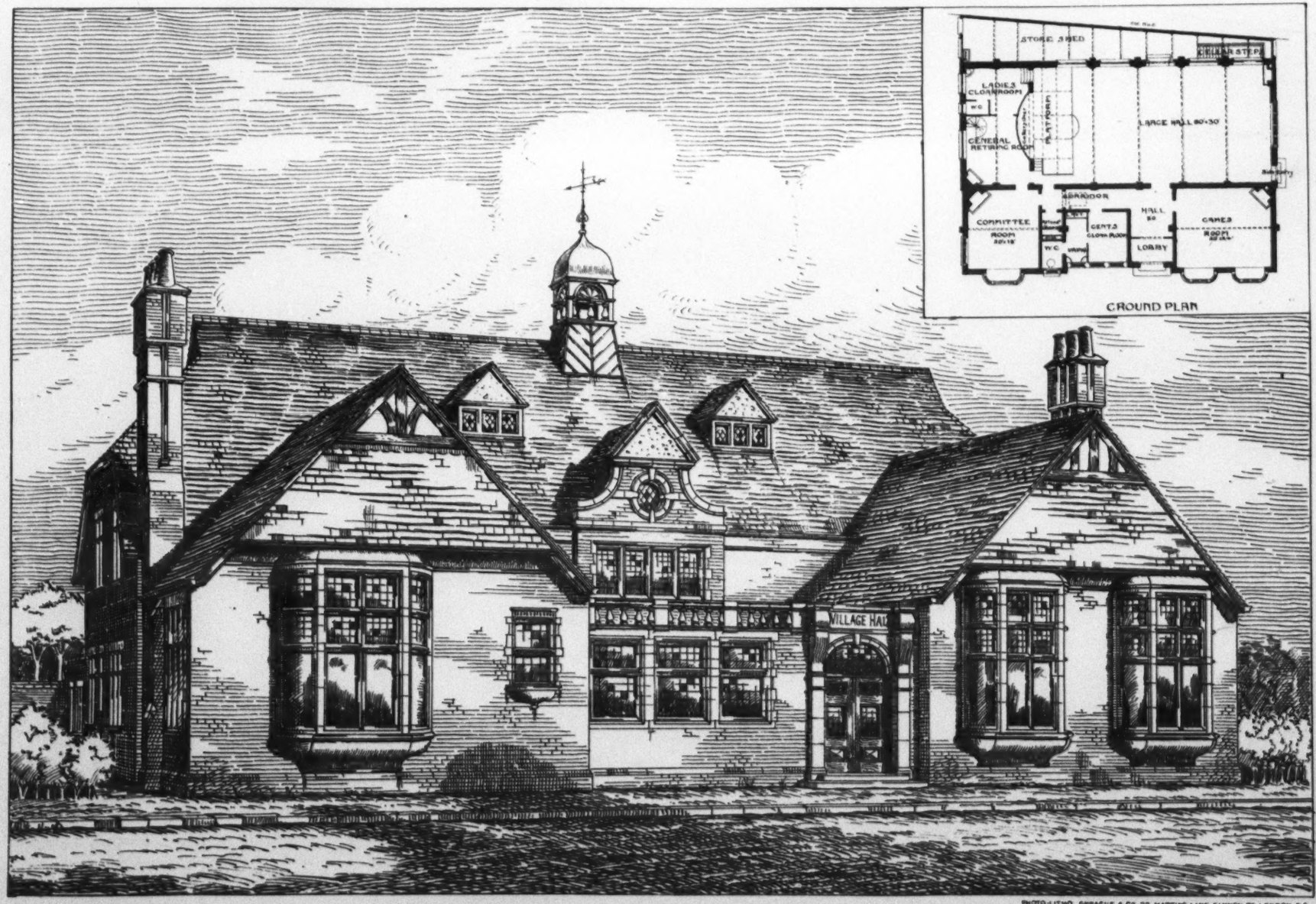


PHOTO-LITHO. SPRAGUE & Co. 32, NARTING LANE, CANNON ST. LONDON, E.C.

VILLAGE HALL, ORPINGTON, KENT.—Mr. G. St. Pierre Harris, A.R.I.B.A., Architect.

The new part of the ground floor consists of entrance-hall, drawing-room, dining-room, with oak panelling to the walls and ceiling; kitchen and offices. The older part of the ground floor is utilised for morning-room, school-room, pantry, &c. Cellarage is provided under part of the new rooms.

The first floor contains a library fitted with walnut panelling and book-cases. Upon the floor over, but communicating with the library by a separate staircase, is a book-room for pamphlets, also a smoking-room in the turret.

Eleven bedrooms, besides dressing-room, bath room, &c., complete the remainder of the accommodation provided upon the first and second floors, a few of these rooms being in the older part of the building.

The halls, corridors, staircase, and some of the rooms, are warmed by hot-water radiators. Marlborough stoves have been adopted throughout. The house is fitted with electric bells, speaking tubes, and a service lift.

The grounds have been laid out by Mr. Paul, of Cheshunt.

The builder is Mr. John Greenwood, and the total cost has been about 6,000*l*. Mr. Alfred Conder, F.R.I.B.A., is the architect.

THE VILLAGE HALL, ORPINGTON, KENT.

This building has been recently erected in a central position in the village of Orpington, at the sole cost, together with the furniture and fittings, of Mr. Alfred Brown, of Pine Ridge, Orpington, for the use of the parishioners, irrespective of creed or politics.

The plans, &c., were prepared by Mr. St. Pierre Harris, A.R.I.B.A., architect, and the works have been carried out under his supervision, by Messrs. W. Holt & Son, builders, of Croydon. The building was opened by Sir John Lubbock on October 22.

Externally, the walls are faced with red bricks from Woolpit, the window dressings, balustrade, porch, &c., being of buff terra-cotta, with a slight tinge of pink. The front gables are weather-tiled, relieved by a sparing use of half-timber work, the roof (which is surmounted by a flèche in English oak, and covered with copper) is of strawberry-coloured Broseley tiles. The architect's aim has been to provide a building suitable to modern requirements, of a substantial character, and designed to harmonise as much as possible with its old-fashioned surroundings.

The plan in the corner of the plate shows the general arrangement. The hall is covered by a hammer-beam roof, and that and the Club Rooms' ceilings have ornamental friezes of fibrous plaster. At one end of the hall is a moveable platform with an arched recess at the back and a minstrel gallery over. The rooms are at present not permanently decorated, but an agreeable colour effect has been obtained by the use of plain tints, in which work the architect has been assisted by Mr. Lewis F. Day.

Messrs. Doulton & Co. supplied the terra-cotta and the sanitary fittings; Messrs. Mainzer & Kempthorne, the mosaic paving; Messrs. Strode & Co., the wrought-iron gas-fittings, weather-vane, &c.; Messrs. Worrall & Co., of Liverpool, the wrought-iron fences and balustrades; Messrs. Mortelmans & Co., of Camberwell, the fibrous plaster; Messrs. Weekes & Co., the heating apparatus; Messrs. Kelley & Co., the leaded cathedral glazing; Messrs. Parkes' Bros., the stoves and mantels, which are supplied with fresh-air inlets into the rooms; Messrs. Boyle, Limited, the fresh-air inlets; Messrs. Hart, Son, and Peard, the locks and fittings.

The English Iron Trade.—There is an improvement in the English iron market, which shows itself in a larger volume of business and firmer prices. As a matter of fact, the better tone is perceptible only in the northern markets, but it cannot fail before long to influence those of the south. In pig-iron the buying is still only for immediate requirements, but more money has to be paid. The Glasgow warrant market has again been in a rising tendency, and the business done has aggregated a large total. There is a fair demand for makers' iron, and some brands are being quoted again. Middlesbrough pig has advanced 6d. per ton, and west coast Bessemer iron, 2s. There is a fair movement in finished iron, and values are steady. Steel has been less stiff, because of a somewhat slacker demand, temporarily. The shipbuilding trade is in a satisfactory condition. Engineers keep well employed.—*Iron*.

ANCIENT BUILDINGS AND MODERN ARCHITECTS.*

Both in relation to the use to be made of the architectural art of the past, and the scope to be given to the architectural art of the present, it seems desirable that some attempt should be made at a dispassionate consideration of the relation of the modern architect and his work to the claims of ancient monuments, on occasions when the work of the ancient and of the modern architect comes unavoidably into juxtaposition or into absolute competition.

Every one is aware that, with the Gothic revival movement half a century ago, there arose not only a passion for making modern imitations of Mediæval work, but for restoring, as it was called, such Mediæval monuments as had suffered from time, or from wreckage, or wilful injury of one kind or another; though perhaps every one is not alive to the fact that, at that time and up to twenty years ago, the whole feeling of the best educated and most art-loving section of the community was in sympathy with such restoration, and regarded it as the best practical appreciation of the value of the ancient architecture; and that to be careless about or opposed to restoration was to be a "Philistine." Now the pendulum has swung the other way; it is "Philistine" to be an advocate of restoration, and those who regard themselves as "superior persons" mostly affect a great contempt and disgust for restoration and restorers, though in many cases this opinion is only parrotted as a fashion by people who hardly understand the real grounds either for or against it.

It may be observed also that it is the fashion at present to class under the general term "restoration," or at all events "under the same condemnation," every sort of meddling with an old building, either by altering old work or adding new work to it. This suits the plan of campaign of the "anti-restorers," as it gives them a handle for tarring every one with the same brush who lays any sort of hand on an ancient building; but it is in many cases a misuse of language which leads to confusion of ideas. The term "restoration" is only properly applicable to two processes: (1) building up something which is supposed to have been once there and which has been destroyed, or (2) cleaning and furbishing up and piecing old work to make it "as good as new." Adding new portions to an ancient structure is not "restoration," though it is frequently included under that term and visited with the same censure.

Both the restorers of the last generation and the "anti-scrapists" of the present day have made serious mistakes (though the mistakes of the former unhappily have had the more permanent consequences), owing to looking at only part of the truth about ancient buildings and shutting their eyes to the rest.

There are three kinds of value an ancient building may have for a modern generation; (1) its historic value as a record of the past; (2) its artistic value as a piece of architectural design (3) its practical value as a building still in use for practical purposes. It was the mistake of the generation of restoring architects to ignore the first factor entirely; it appears to be the mistake of the "anti-scrapists" of the present generation to ignore the other two entirely. The real duty of the modern architect who is called upon either to alter, repair, or add to an old building, depends entirely upon the relative degree in which these several qualities of interest, the historic, the architectural, and the practical, are found in it; and his treatment of each ancient building must depend on the special circumstances of each case. No hard and fast rule can be laid down.

Before proceeding to illustrate this view more in detail, let me, however, say at once that I differ very little even from the extreme anti-restoration fanatics of the day in regard to what is, properly speaking, restoration in its purest form,—viz., the building up again of something which has disappeared, from indications found on the existing remains. Such indications never can give the real truth as to the disappeared portion; there may be the most probable, the most ingeniously logical restoration; but it is only probability after all. Therefore the restoration is absolutely valueless historically; it does not resemble the workmanship of the original builders, and we cannot say positively that it resembles their design, and it would be far better to build up the destroyed portions our own way, as well as possible in an architectural and practical sense. But in the case of a complete design, of which a portion is gone, but of which the portion remaining gives the design entirely,—say in a continuous cloister, of which two bays have been ruined, and the rest are in good preservation, I consider it would be absurd to object to rebuilding the ruined bays in order to complete the design. For this, it must be observed, does not pretend to be history; this is a question of completeness of architectural effect, which is quite another matter. Architecture is design as well as history, and both elements claim consideration.

A line may be drawn, however, in regard to such work as carved detail, which cannot be precisely reproduced, like mouldings or tracery lines, and which usually differs in different portions of the same arcade, for instance. In such a case it is better for the new portions to show their novelty, and make no attempt to imitate ancient work, only to preserve such a general similarity in the balance of parts as may harmonise with the general design of the whole. Carving of figures or foliage stands on a very different footing from such purely architectural details as can be set out by measurement. The personal equation of the worker comes out much more strongly in such work, and it is impossible that any modern sculpture, for instance, can look like Mediæval sculpture or harmonise with Mediæval architecture. In the case of recent repairs to a Mediæval gateway, repairs which were absolutely necessary for its safety, it was mentioned that a new figure was to be executed for the niche over the gateway, and the fragment of the old one still existing was to be put in a museum with other relics. I ventured to make the suggestion, in print, that the old fragment should be left where it was, and the new statue put in the museum. This was "wrote sarcastic," but the architect engaged took it seriously, and wrote to me that he had given the suggestion every consideration, but that the old remnant was too rotten to be left *in situ*, and that the authorities were very much pleased with the new statue. This is the way such things are generally settled. I see no objection in such a case to putting in a modern statue by the best modern sculptor you can get; but not a modern-Mediæval one, which is a mere pretence, neither one thing nor another.

That minor part of restoration which consists in cleaning, repairing, and furbishing up what is old, is again a matter to be settled according to special circumstances. As a general rule, it is undesirable to interfere with exterior surfaces of buildings, not only because the effect of weather-stain and vegetation is far better, in a picturesque sense, than that of masonry scraped to the raw surface, but because such scraping is generally injurious to the wall, practically destroying the hardened skin which weathering has given it, and leaving it softer and more friable than before. There are few cases in which anything is gained by meddling thus with the exterior surface of an old wall. But in regard to interior cleaning and reparation the case is very different, when we are dealing with a building still in ordinary use. To say that the clergy and congregation of an ancient church which is in daily or weekly use for service, are not to clean off the whitewash with which it has been barbarously covered; not to have new seating if the old is worn, unsightly, or inconvenient; not to relay a battered and uneven floor with new tiles; all this is about as reasonable as to say that a man who happens to live in an old house is not to have new furniture, carpets, wall-papers, or decorations when he requires it. Cleanliness, order, decency, convenience, surely count for something in a place of worship in regular use. Yet people are gravely rebuked for the offence of making their churches clean and decent, and of removing clumsy and ugly fittings which have no affinity with the architecture of the church, because, forsooth, they are destroying the history of the various changes in the church. Rubbish! Such changes as covering mouldings and carving with whitewash, and putting up bad woodwork utterly out of keeping with the architectural character of the building, are pieces of "history" that are better forgotten. There are occasions, no doubt, when it is an æsthetic crime to remove the old fittings from a building. Such a case is that of Wren's famous church of St. Stephen's, Walbrook

* By Mr. H. H. Statham. Read in the Section of Architecture at the Art Congress, Birmingham on Wednesday last.

where, within the last two or three years, the original seating has been removed (merely because it is out of the present ecclesiastical fashion), the floor-space cleared, and the pews replaced with open benches. In this case there is a real mischief done to the architectural design of the building, of which the original fittings formed an integral portion, the columns being designed with bases just above the level of the woodwork; they are now left standing on tall, bare pedestals, with no meaning at all, and entirely out of proportion to the columns; the columnar order having been specially designed to be seen only above the line of the woodwork. Thus the whole proportions and intended effect of Wren's original design are spoiled. Yet the very persons who would and did protest against this alteration, on the ground that it destroyed the architect's design, will equally protest against the removal of commonplace pews from a fine Mediæval church, where they have nothing to do with the original architecture, and form an unsightly excrescence, entirely out of keeping with it. In the eyes of such critics, apparently, "whatever is, is right;" whatever is there is to remain, bad or good, architectural or not, simply because a previous generation put it there. This is nothing better than foolish bigotry, the only possible merit of which is that it saves people the trouble of thinking, or of forming an opinion on rational grounds, a kind of mental exertion which many people like to be saved.

But this new kind of bigotry is shown in even greater force when it is a question of making any addition to an old building. According to the views of those who pose as the special guardians of ancient buildings, it appears that a clergyman whose congregation has outgrown the size of an ancient church is not to make room for more worshippers by adding a new transept; another who wants a larger vestry is not to build it; a new organ-chamber for a larger organ is not to be added; or a clergyman is taken to task for sacrilegiously cutting a doorway through a Mediæval wall to make a more convenient access from the vestry. All these cases refer to buildings in actual use for the purposes for which they were originally built; so that it comes to this, that the practical usefulness of a building is to be entirely set aside and regarded as of no consequence in comparison with its preservation in the form in which the present generation found it. That is a principle which has never been proposed or acted upon in the whole history of architecture until the present day, and it is a principle entirely opposed to common-sense and to the whole *raison d'être* of architecture. The basis of architecture is utility; and to put utility out of sight and act merely on sentiment—and sentiment of a very exaggerated and indiscriminating type—is simply a *reductio ad absurdum* for architecture.

A brief reference to some actual buildings and their treatment may be useful by way of further illustration of the fact that each case has its own special circumstances and requires to be considered in reference to them. Taking a building which has become an actual ruin, such as Kenilworth (to mention a notable example in this neighbourhood), there can be no doubt that in that case the sole thing to be done is to leave it alone, beyond doing what seems necessary to preserve it from further decay. A man who could propose to rebuild Kenilworth as a restoration of it as it existed say in Elizabeth's reign, would amply deserve any of the hard things which would certainly be said about him. It would destroy all the sentiment and all the historic interest of the ruins, and give us a mere sham in return. But the case is different with a building which is still architecturally complete, though in a neglected and dilapidated state. Dunblane Cathedral is such an instance; it is complete or nearly so as a shell, but was long in ruin internally, and partially roofless. The people of Dunblane recently conceived the idea of raising money, and asking for a Government grant in aid, for roofing and refitting this fine old church, and restoring it to the purposes of divine service for which it was originally built. Now, considering that the large majority of the more serious people of this country regard public worship as an important aid to religious life and faith (and, not being what is called an orthodox churchman myself, I am here speaking entirely without prejudice), it might surely have been thought that it was a most praiseworthy act to fit this building for its religious use, and to fill its long-silent spaces once more with the sound of prayer and praise. But no; your anti-restoration fanatics will have none of this, and have actually done and said all they could to discredit the scheme and to excite the public mind against it, merely because the nave of the building has long stood empty and dilapidated, and they wish it to remain so still. People who act in such a spirit seem beyond the reach of argument or reason.

Another good illustrative case is that of Chester Cathedral, which I select partly because, living in the neighbourhood then, I saw a great deal of the work. The cathedral was almost refaced externally by Scott, and scraped, cleaned, and some ugly galleries removed internally, and a certain amount of decoration done. The worst thing done was the wooden vault over the nave, a barbarism for which there is not a word of defence to be said. But no reasonable person who knew the interior in old days, and how dismal, dirty, and neglected it looked, would deny that its present state is far more suitable to a church in daily use for service. The exterior is another matter. In its old state it was a delight to painters, the soft red sandstone being rounded and worn to such a degree that the whole looked, as I heard it remarked, like "an old sea-beaten rock"; of architectural detail there were, for the most part, but a few uncertain traces remaining; and the building certainly looked as if it was going to ruin. This was the pretext in fact, for refacing it, but I think the real reason was to give it "architectural style" again. Scott's clerk of works one day imprudently observed to me "You have no idea how strongly these old walls are bonded; it is sometimes a whole morning's work for two men to get one stone out." I replied "I thought you were doing all this to make the building secure," and for once the clerk of works, generally most loyal to his architect, had nothing to say. The cathedral externally is now practically a church of Scott's, with some late emendations by Sir A. Blomfield. The alteration has almost altered, one may say, the whole character of Chester, and if the cathedral was secure in its old state, I think it should have been let alone externally. It was at least picturesque and genuine. But I cannot help thinking that, in spite of the clerk of works' admission about the solidity of the walling, it may have been very questionable how long a building would have remained secure when the walls had once become furrowed and pitted in the way they were, and that all this must be considered before too hastily condemning the re-casing of the building. But there is one incident in Scott's restoration which is an example of the absurdity of conjectural restoration: I mean the stone pyramid to be seen over the east end of the south aisle. This is all the offspring of a bit of moulding and a sloping weather-mark found on the adjoining wall in the course of the restoration. Out of these elements, coupled with a record of a French abbot of Chester in the Transitional period, Scott ingeniously evolved this exceedingly French-looking termination to the aisle. The reasoning, based on such slender premisses, was very clever; we were told in fact (according to the fashion of restoring architects in these cases) that "the evidence was quite complete." The evidence was complete that something *of that kind* was once there, but that is all; even if Scott knew exactly what it was it was no use doing it over again; but as the facts stand the erection is the very height of absurdity, a useless and ugly thing put up because there is some reason to suppose that somebody put up something like it seven or eight centuries ago.

St. Albans is another building that has its lesson as to looking at things from all sides. The fight over it began about the proposal to raise the nave roof to the old high pitch, and the anti-restorationists forthwith raised the cry that the existing roof was only in need of a little judicious repair to last for ever. They did not take the trouble to look at the roof first. I did; I went into it with a lantern, and I never saw such a mass of rottenness and decay pretending to call itself a roof; one hardly liked to trust one's own weight on it. A hue and cry was then raised about the old painted ceiling; could it be possible, it was said, that there was any talk of removing that? And what was this precious relic? A commonplace pattern in circles, such as any school-boy could draw with a pair of compasses, painted on thin band-box slips of wood $\frac{1}{8}$ to $\frac{1}{16}$ of an inch thick, and so rotten that many of the pieces could be crumbled in the fingers. Yet it was over this sort of stuff that a lamentation was set up, as if people were going to pull down the building. All this plays into the hands of a man like Lord Grimthorpe, who knows well how to turn it to account. And about the west front? Well, considering what the dilapidated state of the old west front was, that the west window was a debased affair in design, and ready to fall to pieces, and that almost every vestige of architectural detail had been eliminated from the façade; considering also that the building was about to start on a new career as a centre of a diocese, I say that to build a new façade to it was in itself a perfectly right and reasonable and truly architectural project. The mischief was that a Chancellor of the Diocese, who boasted of his ignorance of architecture and declared that he could not understand a drawing if it was shown to him, gave over the unhappy building to a man who had no claim to meddle with it but the possession of money to indulge his whims, with the help of a half-educated clerk of works, who had picked up a smattering of Gothic, to do the designing for him. Such a proceeding, I believe, would be impossible in any other country but England. But the opponents of it took the wrong line. They insisted that no one ought to put a new façade to an old building, however dilapidated; and the common sense of the public was against them. They should have argued that such a task required the highest architectural power and culture to do it justice, and that it had been sold to a manifestly incompetent person. There might have been some chance of success on those lines.

The treatment of Westminster Hall is the last great *coup* in restoration, and not the least instructive. The origin of it all was that when the old Law Courts were removed from the west side of the building, a piece of Norman walling was uncovered; not Norman *architecture*, but simply Norman masonry, which was not in a condition to bear exposure to the weather, and, in order to cover it up and preserve it, slight and rather doubtful indications of a former double cloister were brought forward, and such an erection was made over again, and we were assured, as in the case of Scott's pyramidal erection at Chester, that not a link of evidence was wanting for the "restoration," as it is called. It is the same thing over again: there was evidence that something of the sort was probably once there, and something of the sort is built again; but it is all conjectural in detail. Its historic value is absolutely *nil*. But as it was feared that public opinion would not stand all this expenditure for building a pretended Mediæval "restoration," it was contended that the long low narrow rooms thus formed would be very useful, though their use has not yet been discovered. That is inverting the natural and logical process of architecture; creating a structure first, and endeavouring to find a use for it afterwards. That is the whole history of the thing, and no one who reads the blue-book of the Westminster Hall Restoration Committee can honestly make anything else out of it. And all this to preserve a piece of Norman wall—why, it is sheer fetishism, this bowing down to every old stone wherever it is found. The Norman masons who built the wall would have laughed if they could have known of it.

Then what should have been done? I think I know what a Mediæval architect would have done, and what in all probability Sir Charles Barry would have done; who, like every great architect, lived in the present and did not confine himself to worshipping the past. Either of them would, probably, have cut away the old, patched, shaky, dilapidated buttresses like so many pieces of cheese, and cased the whole exterior of the hall with a new design connecting it with the architecture of the great modern palace which has sprung up around it. The architectural glory of Westminster Hall is in its interior; its exterior, if it were ever intended to be seen (which is open to question), had lost all architectural character at the time when it was laid bare to view on the removal of the old courts. What has now been built against it is an archæological sham, having no meaning or value, and introducing details entirely out of scale with their surroundings. What I have suggested as the probable action of a genuine architect, Mediæval or modern, would have resulted in an

architectural reality. No doubt, the very idea will make some people's hair stand on end. Then what do they say to William of Wykeham's treatment of Winchester nave?

Oh, but, we are told, there was a national style of architecture then; there is none now. Is *that* what the opponents of all interference with ancient buildings are waiting for? They will have to wait till the Greek Kalends, then. All that is gone for ever. How can there be a national style of architecture carried on in the same inevitable kind of way, with the same naïve simplicity as Mediæval architecture, recognising only one way of doing a thing, when history and modern means of rapid travel have brought our minds into contact with every style of the world, and every monument of ancient and modern architecture? Architecture is no longer national, it is individual, and it cannot be otherwise under the conditions of modern life. It has become a form of artistic expression; and if, on the one hand, we should give all value and admiration to the good work of the past, we ought not to be afraid of doing good work in the present, even when the practical and structural circumstances which control architecture require that it should be done at the expense of the old. Time moves on, and old buildings cannot last for ever. Let us respect them, but not make fetishes of them. That is not the spirit in which anything great in architecture has been produced. Nothing seems to me more pitiable, or more opposed to all real advancement of the art of architecture, than this kind of grovelling before an old building, merely because it is old. "True, it is dark and dilapidated, and, perhaps, unhealthy, and unsuited to modern requirements, but still spare it, for we, alas, can do nothing to equal it; we are poor wambling bodies, who can produce nothing worth calling architecture now:" and so on *ad libitum*. If architecture is dead, we at all events shall not do much to bring it to life again by folding our hands in despair, and lamenting over our incapacities. Rather let the modern architect, if it becomes necessary to remove or improve an old building that has done its work, strive with all his heart, and mind, and soul, and strength, to do something better in its place. He may succeed: who knows?

THE ARCHITECTURAL ASSOCIATION.

THE second meeting of this Association for the present session was held on Friday, the 31st ult., in the meeting-room of the Royal Institute of British Architects, Conduit-street, Mr. Leonard Stokes, President, in the chair.

The minutes of the previous meeting having been read and confirmed, the following gentlemen were elected members of the Association, viz.:—

Messrs. F. T. Maltby, C. G. Mayhew, G. H. Godsill, T. A. Sladdin, P. F. Hockings, F. L. J. Barrow, F. E. Ward, W. J. A. Anderson, E. A. Richards, S. Leake, A. J. Dalton, E. P. Bannell, A. E. Kirk, E. P. Cameron, H. Webber, A. C. Allen, C. E. Thomas, E. H. Gatehouse, J. H. Jones, jun., H. E. Jones, W. A. Forsyth, T. J. W. Anderson, G. E. Boys, P. C. Fuller, J. H. Tyars, F. W. Chancellor, R. T. Barker, A. H. L. Mackinnon, H. S. East, O. C. Hill, E. A. Vigers, C. E. Blackbourn, J. J. Chalmers Francis, P. Soames, H. H. Robinson, Lester Binns, R. Jones, J. Haitree, and A. Spiers.

Mr. F. T. Baggallay proposed the adoption of the report of the Committee for the past year.

Mr. Brodie seconded the motion, which was unanimously agreed to.

On the motion of the Chairman a vote of thanks was accorded to the auditors, Mr. Max Clarke and Mr. W. Campbell Jones.

Mr. F. R. Farrow (senior hon. sec.) announced that the special business meeting, advertised in the "Brown Book" for November 28, would be postponed to December 12, and that Mr. W. H. White (Secretary of the Royal Institute of British Architects) would read his paper on November 28.

The Past, Present, and Future of the Association.

Four papers were then read by Messrs. A. Beresford Pite, Walter Millard, Needham Wilson, and Owen Fleming on "The Past, Present, and Future of the Architectural Association."

Mr. Pite's Paper.

That the past has produced the present as we find it to-night is a sufficient statement of the soundness of the original constitution of the Architectural Association, as well as of the wise elasticity which has permitted it to enjoy such a rapid and easy growth to success.

Within certain limits, and in attaining certain objects, the Architectural Association has undoubtedly been a success, and a great success. Its influence and constituency are practically as wide as its profession, for it gathers all students within its ranks upon the commencement of their career, edifies, amuses, and benefits them with companionships. It provides the best occupations for their spare hours, offers them small prizes for competition, and, as becomes a society existing in this age of eloquence, affords the veriest novices facilities for debating and discussing papers and lectures; and lastly, and this has a not unimportant influence upon the present crisis, develops the young man's powers of statesmanship by initiating him into committees and their peculiar ways, early adorns him with titles and Vice-Presidentships, and ere his wisdom-teeth are cut he dreams of a night that he is sitting in that elaborately-carved Romanesque throne which inspires its occupants with Presidential gravity and sapience.

By means of its ordinary meetings, essays and lectures upon every branch of architecture have been published, that in quantity and interest, if not in weight or polish, rival the papers produced for the Institute, and in these days quantity in production means energy, and interest in matter popularity. Our papers are produced in theory for fellow-students but are equally valuable to the whole body of architects, viz., papers on "Lunatic Asylums," "Hospitals," "Continental Tours," "Water-supply to County Houses," and many others whereon published authorities are either scarce, silent, or ignorant. And the discussions that have ensued have been provided with the most patient, attentive, and generous audience for the speakers to be found in the profession.

But below the surface the work has been quite as successful, the number of those who have needed the help of classes has been few in comparison to the whole body. But one year only, as a rule, is wanted for attendance at each class, but many, and may their number ever be lengthened, for membership of the Association.

Many classes in construction, surveying, drawing, and design have been formed among the members, really upon their own initiative, and wider experience has been gained by such contact with fellows in better or worse offices than oneself, and an ardour and emulation has existed among visitors and teachers to be armed against mistakes and pitfalls.

An important factor in this success has been that opportunities for architectural study have been given without interfering or competing with any of the surrounding and more regular methods of architectural education. The invaluable series of lectures at University and King's Colleges and the work of the Royal Academy Architectural Schools have not been interfered with, and we have always retained the invaluable help of the professors at the colleges and their recommendations to our classes. Their time-tables have fitted in with the Architectural Association calendar, and our harmony and elasticity of constitution have again ensured success, as the Architectural Association has never offered lecturers to equal or rival the late Professors Cockerel, Donaldson, and Hosking. No attempt has been made to discredit the apprenticeship system, as nothing in the constitution of the Association clashes with the usual requirements of articles of pupilage, and the hands of the pupil have been strengthened in the classes of construction where he supplements and tests by question and answer, his daily learnings and observations; and by classes of design, where he learns to be impracticable, visionary, and poetic, and builds temples and abbeys that no sane master could afford time or patience to thoroughly criticise.

It should not be supposed that a practising architect's pupil could acquire knowledge of the archæological and antiquarian branches of architecture without an added stimulus to enthusiasm, or that his defective early education in mathematics or free-hand drawing should be remedied by premiums to business men,—such enthusiasms must be cultivated, and such defects remedied by courses of Drs. "Birkbeck" and "A. A.," and our part has been most successfully done; the confidence of the pupil in himself has been increased, and the sympathy of the whole body of practising architects enlisted on behalf of the Association. I have always believed it below the dignity of this Association to discuss the relations and mutual duties of architects to pupils; but as the question undoubtedly bears most largely upon architectural education, it cannot be overlooked in a review of the work of the Association. The architect in practice is presumably qualified to practice, and the pupil that he contracts to teach is to be provided with similar qualifications, so that in a given time he may similarly practise. Now, I no not suppose that it will be maintained here, for a moment, that the majority, or a large minority, or any considerable number whatever of the practising architects of London, are not fairly and properly qualified for ordinary business practice. Business experience goes for much, nowadays,—for a great deal too much in architecture,—but as long as injunctions are so perilously easy, builders so eccentric, workmen so stupid, surveyors so tortuous in their accounts, and district surveyors so nervous and legal, this experience must be bought, as it is indispensable, for without it you cannot be a "practising" architect. Now, all this has been recognised by the Association, and the lighter and pleasanter paths of design and colour, and the interesting discussion of constructive questions, have proved to be attractive to a large number of students, to whom our policy of co-operation has proved a very successful aid.

One other point, and I have done with the past. What has it done for the higher and ultimate objects of the Architectural Association? There is an object beyond the offering of facilities to architectural students, the improvement of the individual architect is not the only end in view or the final results of our operations. As the Association takes the young architect in hand at the period when his mind is most open to high ideals, we have here energies that only need right guidance and encouragement to react upon our national art. The work and influence of the Association need not, and must not, be devoted to the cultivation of professionalism, to the neglect of wider and greater influence upon the practice of the art of architecture. In the past this sphere has been only occupied spasmodically. The influence of artistic men has been felt in the classes of design and colour, in the discussion and criticism of current design at the ordinary meetings, and in the improvement and advancement of constructive ingenuity and simplicity at the construction classes. But this field has been scarcely cultivated. The fact does not seem to have been fully grasped that by influencing for art a large body of young enthusiastic architects the outward and visible architecture of our streets and country places might be vastly changed. For many years past it seems to have been taken for granted that unity of artistic feeling and aim was impossible; that we were hopelessly divided into two or three irreconcilable schools of design, and that though all owned the same constructive habits and practice, it was undesirable and impossible that unity of artistic aim and feeling could be secured. But this is rapidly becoming a dead tradition, and "design with beauty build in truth," because it dates from the past, almost sounds as if it had a covert intention of setting rival schools, which either preferred beauty in design to truth in construction, or naked truth in building to designed beauty, at war with each other. The doctrine of the unity of architectural art is the result of the throes and struggles of this singular century, issuing, we hope, in that more perfect brotherhood of all the arts which has distinguished the great art movements of the past.

But our present, our controversies, the subjects that most frequently appear in our discussions and programmes, the burning questions of the day and hour, what are they? What do they mean? What is their tendency? In what direction are the forces of this Association being bent? In the inverse order of our review of the past, are we intent first upon the advancement of art? upon the recognition of its essential unity and power upon national life? Are we bent upon manifesting in our student designs, in those small jobs upon which we cut our teeth, in those competitions which fill us so full of hope and dreams, that we intend to develop with sincere industry in detail, with the greatest patience and revision, all the powers of design for which our work gives us the opportunity? Are we determined to win for English architects the merit of loving

care and watchfulness over every delicacy or strength of effect that can be earned by the texture of our national materials, or by the cultivation of the very peculiar light and shade of our uncertain climate, or of reflecting in our business premises the uncompromising subjection of every feature to usefulness and suitability, and in our public edifices of the same qualities, with the added problems of monumental character and of centralised classification? Alas, no! the burning question, the will-o'-the-wisp of the hour, the present ideal of future attainment is professional qualification, tested by enigmatic examination, to be sealed by legislative enactment in registration, against all poaching by "auctioneers, land-agents, and surveyors" or other unauthorised and uncharted commission agents. The bosom of this Association is now heaving with emotion and excitement, not to ascertain wherein lies the power of such great designers as Burges, Street, Godwin, Thompson, or Cockerell, but as to how best to solve "apophyge," "hagioscope," "acroteria," or "ambon," and as to which is the safest method of guessing the number of columns in a temple, or either of spelling in writing or of pronouncing in *viva voce* the names of some "leading architects" of a selected period. Could pedantry be more aptly illustrated than by such questionings? or the docility of the youthful architectural mind by submission to them? And then the all-importance of constructive knowledge is to be demonstrated by playing a sort of "lucky bag" game with an architect's compendium of building materials, or by a specification, written without drawings, details, or locality, in an hour and a half. Here, therefore, is work enough for specially-trained teachers for new classes, for a whole race of newly-created pedants and pedagogues. Hence, our present excitement and labour over "curriculum," and our forgetfulness that "architects," to quote Mr. Sedding's admirable dictum,—not a new one, either,—"must be artists first." For we listen to, and take in, advice as to "education" and "qualification," as to "curriculum" and "diploma," from men who, whatever else their attainment, are not "artists first," and who could not, with any facility, produce good architecture.

At present we are off the track; in the absence of Scott, Street, Burges, and Godwin we have gone astray. The great designers that remain who were their later cotemporaries, and who share their powers and zeal, are unfortunately silent and prefer retirement. So that we are left to unartistic boards of examiners and the feebleness of their inexperience. Our eager young men take up the programme of the "examination in architecture" (sad misnomer), and in default of better leaders imagine that the position and dignity offered by the consolidated ranks of the examined is the best object of their early aim, and what classes are formed or fees propounded will be accepted with this end, and architecture will fade away from the brilliant position that the free efforts of the great artistic enthusiasts have obtained for her and become scrapily academic and intolerably dull. The profession may be advanced and the art will be forgotten.

But what for the future? What is the hope of the Architectural Association? Let it be a lofty one; let us not be afraid of having somewhat of a distinctive ambition and idea of our own. We have inherited a good constitution that has proved itself to possess the elements requisite for enduring and for accommodating itself to the times. Our system of co-operative assistance in education can be maintained and enlarged in whatever direction or degree may be necessary for the real advancement of the architectural and artistic knowledge of our members. Classes for drawing from the antique, for architectural modelling in wax or plaster, for perspective drawing, for the systematic criticism of modern work, and the analysing of the design of ancient buildings, might perhaps be added to those already existing, and embrace a practical and artistic range of subjects quite outside the purview of examination boards. There will be no need for revolutionary measures, the ultimate object of which is to create a constituency for the Royal Institute of British Architects, and which must issue in the forsaking of the Association, so soon as the examination is passed and the Associateship of the Institute acquired.

The curriculum that has been propounded essentially reforms the whole work of the Association upon the basis of this examination programme of the Institute. It is proposed to do this very thoroughly, at the expense of our old traditions, and, I fear, of our old success. I wish to ask, in conclusion, is the end to be attained worth the sacrifice? Will the recognition of the examination as our goal and object advance the Association in numbers, friends, and usefulness? Will our old success remain to us as an independent body when we have sacrificed individuality to the generalisation of the academic programme? Does all this tend to the advancement of the art of architecture? Will the hitherto small share that the Association has had in stimulating the enthusiasm of students for the work of great architects, and the appreciative zeal and emulation of their pupils be increased by the reduction to a curriculum of artistic freedom and by the ignoring of all sources of architectural knowledge and skill that cannot be learnt from books, crammed for examination, or distilled into questions and conundrums?

This subject has naturally led one face to face with the Associateship examination of the Institute, and solely because it is proposed to impress and cast it upon the entire work of the Association in the future, have I been led to criticise it. I believe it to be in part a fair test of certain qualifications for the surveyor's part of the architect's many-sided character, but it is ill applied and ill suited to encourage appreciation of daily office work, or to improve the daily practice of a student. It removes him from the study of a great and noble art, from the contemplation of the vast and renowned beauties of the architecture of the world, to the consideration of papers of questions that reveal in every line the fact that the examiners have mistaken definition of terms, or extemporaneous delineation of features, for knowledge of principles and discernment of fitness and beauty. In conclusion, I would exhort students to seek instruction and emulation from the examples and work of the really great masters of the nineteenth century, from those who, by patient and long observation and study, have produced beautiful architecture, from those, in other words whose works entitle them to be the guides, teachers, and if need be, examiners of young architects, and not from men whose chief claim to our attention is their enthusiasm for mere professionalism and diplomatic examination; remembering what I think must be an incontrovertible fact, that if the great modern architects, whose premature departure has been so disastrous,—Street, Burges, and Godwin,—were alive and with us, the R.I.B.A. compulsory examination would scarcely yet have come into existence.

Mr. Millard's Paper.

In reluctantly complying with the Committee's request that I would read a short paper on the subject of "The Present, the Past, and the Future of the Architectural Association," I must state that I am unable to offer you anything more than my own one-sided opinions on the question, just as I have held them for some time past,—only to get more and more confirmed in them, and without professing to have made a complete or exhaustive study of the whole subject. I regret this the more, seeing that, as it happens, it is nothing particularly pleasant,—or original either,—that I can find to say on this topic.

On the last occasion that I had the honour of reading a paper before the Association, some three years and a half ago, I concluded with this proposition, viz., that "Our whole profession, as a body, is responsible for the training of its pupils." To this, of course, you very possibly may decline altogether to assent, preferring to regard our profession as one holding a position before the public so different from those of law or medicine, for example, as to admit of no parallel being established between them and ourselves, regarding it, in short, as a profession that is *not* responsible, as a body, for the training of its pupils; but, if there be any here who do agree with me as to the substantial truth of my proposition, I may hope to have them, at any rate, with me in asking whether all, or nearly all, is done that might be done by the whole profession, as a body, towards fulfilling what we believe to be its responsibility for professional training in general.

An intelligent inquirer who desired to comprehend what manner of profession ours is, how recruited, and how practised, would, on extending his inquiries far enough, see scattered all through the kingdom,—throughout the Empire, we may say,—a large and ever-increasing number of men, more or less busily pursuing practice as architects, for the benefit of their employers, the general public partly, and to some extent, perhaps, also for their own pleasure,—and profit; and further, he would observe some of these gathering by degrees in several of the larger centres of population into knots and groups known as professional societies, various in size, and, though with certain common aims mainly independent of one another to begin with, as were their individual members.

Among these societies he would note more particularly two, in the metropolis, presenting at first sight some semblance of joint action, both being housed under the same roof, and, by the courtesy of one of them, both holding meetings in the very same room. One, he would learn, had been founded as "an Institution for the general advancement of Civil Architecture and for *promoting and facilitating the acquirement of the knowledge* of the various arts and sciences connected therewith"; whilst the other had for its "objects," 1. "To *afford facilities for the study* of Civil Architecture." 2. "To advance the profession." 3. To serve as a medium of friendly communication between the members and others interested in the progress of the art." Whatever the difference between these two manifestoes may appear to amount to, our enquirer, in watching how they "come out in execution,"—to use a professional term,—would find one Society ardently professing to be a teaching body, the other, for its own part, proclaiming that *it* is not so.

Naturally, then, our inquiring friend, who would probably wish to begin his investigations into this interesting profession of ours somewhere towards the beginning, might be expected to first turn his attention to a society where professional education is, by common repute, crrried on; and a society, too, on whose model the majority of the professional societies—aiming at being teaching bodies—appear to be formed, to a great extent. From observing its present condition he might find himself gradually led into studying its past, and perhaps even speculating on its future.

I could imagine that, whilst thus engaged, he might more than once stop and ask, "But is this society, then, commissioned in any special way by your profession at large to dispense architectural knowledge? and is this teaching which it is imparting by its various 'methods' supposed to represent the most generally-approved means of preparing students for practice? Is this *the* course of training that architects go through? and, if not, where is any such thing to be found?"

Then, to be sure, it would have to be gently broken to him that there are thought to be more ways than one of gaining instruction in our profession—several more—and that there is no such thing as any sort of monopoly in the business of supplying it. "The other society on the premises," he would be told—"the Royal Institute of British Architects—has got itself clothed with authority to examine as to whether or not the knowledge has been acquired, but apparently without caring much to know how or whence it has been obtained." Then, in illustration of the various ways you may gain instruction in our profession, numberless sources of special knowledge in the shape of lectures and schools, libraries and classes—besides office experience—would be indicated, nearly all of some use, at some particular point in a student's career, and many invaluable to him, but all without organised arrangement or connexion, each going on independently in true British fashion. Then perhaps at length would the actual state of the case dawn upon our intelligent friend, and he would find himself contemplating—yes, and marvelling at—a great profession, whose members, when interrogated, are unable to point to any systematic or definite course of special training generally recognised by the whole body as an established means whereby intending members can secure even so much as what may be termed the irreducible minimum of absolutely indispensable knowledge for entering on practice.

One almost fancies one can hear our friend concluding his inquiries about us with the remark to himself, quite low, "Verily they must be a profession of born artists!"

To return to our Association itself; what have we really to show to intelligent inquirers? Well, looking at our recently-issued Brown-book, which has come out at last, and bigger than ever, bristling with particulars and reports

of something like a dozen different classes, about half as many courses of lectures, and of open prizes, and with a roll of over 1,100 members, we seem to make quite a brave show—on paper. But, let me ask, have not many of us, who are only too painfully aware of such things as shortcomings in our system, often enough smiled sadly,—if not blushed,—at hearing the good-natured words of praise for past efforts and of encouragement for the future, every now and then pronounced like a benediction over us by generous but undiscriminating well-wishers, sometimes even by those who might have been supposed to be too familiar with the facts?

Besides those who from afar "beam" on us through rose-coloured glasses without having themselves had any actual experience in the inner working of the Association, there are others, not a few, who, having in the exuberance of their youth given their invaluable assistance in earlier days,—the "fathers" of the Association,—continue still to indulge in the amiable fondness so natural to parents and grandparents, and, as usual, are just a "wee-bit" prone to overlook the indisputable fact that "the child" has grown up.

Nevertheless, for such a task as fairly grappling with the problem of education for a great profession, the Architectural Association is now notoriously and ludicrously inadequate. And what wonder that it is so? From the beginning the thing has been on a false bottom, from which it has not even yet succeeded in shifting entirely.

Un-endowed and not genuinely self-supporting it has for years and years depended for its main working power on voluntary labour, as a matter-of-fact, on the surplus energy of a comparatively small minority of its members given occasionally out of their spare overtime; whilst on the part of the recipients of the benefits derived, the—anything but lavish—expenditure of one hundred and twenty-six pence per annum, with an odd shilling or two extra for class fees, has long been supposed to count as a fair contribution to meet working expenses.

Did anyone ever hear of other professions—the lawyers, for instance, or the doctors, or the dentists, doing this sort of thing, and trusting to turn out qualified practitioners or even assistants, on such terms? It may appear, on the face of it, an economical way of going to work; but surely architects, of all people, have pretty good reason to know something of a certain not-uncommon accompaniment to mere cheapness and superficial economy. Somehow, our luckless profession seems to be distinguished for a peculiar and hopeless propensity for performing services gratuitously,—or for next to nothing. See, just for the sake of argument, hew we meekly suffer ourselves to be fleeced by the public in the matter of competitions alone!

Charity may come either as a blessing or as a blight, according to circumstances, and, as for this broken reed—voluntary aid—I should prefer to say the Association has chiefly done what it has accomplished for good, in spite of, rather than by means of, such well-meant aid. Worse than being merely inefficient for existing needs, it has been misleading, in so far as it has had the result of leading others to believe and say, and us to say to ourselves—even if not fully to believe—that "all's well," or, at any rate, "pretty well." How the Architectural Association body came into exiitence, got on its legs, and has managed to stagger along so far, is a matter of history. Periodically, for years past, as we know, and probably from the first, it has kept on showing symptoms of suffering from inherent chronic debility—as might be expected from a weak constitution. Witness, the extra-special committees of investigation into things in general, which seem to be appointed, on an average, about every other year.

No! I am sorry to say, using another simile, all I can make it out to be, at best, is a ricketty concern on a rotten foundation, liable to condemnation as "a dangerous structure." It wants "shoring up and underpinning" at least; mere "rubbing down, stopping, and painting" a few coats won't meet the case.

Still, just as, proverbially, a creaking door hangs long on its hinges, so it is perhaps conceivable that the old Architectural Association structure, which has creaked for so many years, might manage to creak on, as hitherto, for another decade or so; if no serious effort be made to save it from itself. To continue harping on that one string, the old-fashioned argument, that the Association was not intended for or established to do any such things as some of us think it might accomplish,—with advantage in every way to all,—is as much as to say that we, the successors to an inheritance, are less free to act in the management of it than they who created it were in their day. Besides, have we not already decided it is high time to take proper steps for superseding our desultory, amateurish methods of instruction by something more like real "business?" The day has gone by for half-trained architects, brought up, more or less, on a semi-gratuitous system, or otherwise.

In the past, then, as I read it, we have seen the Association spring up into its place, like a forlorn hope, owing to the sheer necessities of the situation—the parent profession having steadily neglected, through its responsible executive the Institute, its bounden duty of looking after and directing the training of its recruits, as though it expected to enlist them ready-drilled; we have watched these latter struggling bravely with their desperate task, so gallantly, and in some respects so successfully for the time being, as to deceive others and even themselves, year after year, into supposing they were really equal to it; thus enabling the great slothful parent to continue soothing its conscience in regard to its own responsibility. Still, thank goodness! it is not always utterly in vain that even a forlorn hope is led. The Association has stood in the breach and, in the true spirit of self-sacrifice, done deeds that will for ever count to its honour and glory, and to the shame of those through whose blundering neglect it was driven to do them.

And now we, in the present, seeing what has been accomplished, and what still remains to be done, can't help exclaiming, "*C'est magnifique, mais—ce n'est pas l'éducation;* it is not systematic training worthy of a great and learned profession at this time of day." It won't suffice, as it is, for the future.

The civil engineers and the surveyors seem to have been wiser in their generation than we architects, in not leaving their students to "set up" for themselves in the business of conducting education; for both the influential Institutions in Great George-street keep their students under their own eye. What deplorable, if not culpable, short-sightedness it must have been on the part of the seniors of our profession, when busying themselves about the founding of their Institute, to go and practically shut out the juniors to such an extent as to apparently leave them no alternative but to start an Association for their own protection and benefit. What a huge initial blunder! looked at even as regards the true interests of the Institute alone. Think what a very much stronger position this would have been in for years past, if it had owned its students from the first!

And now, for any one to pronounce authoritatively,—with whatever approach to accuracy, in face of the Charter from which I have quoted,—that the Institute is not a teaching body, never has been and never was intended to be, may be to make a statement of fact, but, even in that case, not necessarily a fact to hold up one's head about, or to tamely rest content with,—hardly a thing, one would suppose, to sit twiddling your thumbs over. The statement itself, by the way, seems to be worth just about as much as it would have been worth saying, some years ago, that the Institute was not an examining body and was not intended to be so. Instead of education, the juniors were given examination alone,—a part, in place of the whole, and, moreover, not the most important part first!

Is the Institute, I wonder, ambitiously bent on following the example of the University of London in holding aloof as long as it dares from taking a part in conducting education, on the plea that it is quite sufficient to examine, and that nothing more was ever intended to be done? What do we see now in the case of this latter Institution? Why, the probable assumption by it in the immediate future, if I mistake not, of responsibility for teaching in addition to examining and degree-giving; thanks to the gentle aid of a Royal Commission and the threat of a rival teaching university arising to undertake the work of education, if it be shirked any longer by the existing authority.

The fact is, the Institute, as the chartered representative before the public of the profession, cannot,—at its peril,—and will not evade any clearly-defined duty to the profession nowadays, whatever it may have done in the past. Only let the profession make up its mind and speak out unmistakably.

At this moment, I submit, the Institute, by sheer good fortune, has an exceptional opportunity to not only make some atonement for past weakness, but to secure to itself a sure source of strength for the future, if only it will boldly seize it, and, even at this eleventh hour, offer honourable terms to the Association. A good working alliance between the Institute and the Association presents to my mind the only rational solution of the whole question of our professional education. Nor is there any insurmountable obstacle to such a thing requiring removal first of all. By-law XVI. of the Institute says:—"Branches of the Royal Institute may be established according to regulations to be made from time to time by the Council," and, according to clause 17 of the charter, "The Council may, subject to such limitations or restrictions as by-laws may from time to time prescribe, apply the funds of the Royal Institute in furthering professional education." The Association would be doing itself nothing but honour in becoming the educational branch of the Royal Institute of British Architects, enabling them to exercise their permissive powers, whilst retaining, by proper mutual arrangement, its own system and methods of self-government for its own particular affairs; and moreover, at the same time securing for its special work the material and moral support of the corporate body of architects, and through them of the whole profession they represent. The prestige and real strength thereby accruing to the Association would far more than outweigh any imaginable loss of influence or dignity based on feeble and empty independence.

To obtain the sanction of the Institute to the appointment of instructors and lecturers would be to invest these with an importance and to give them a position in the eyes of the world which can never be conferred by the Association of itself. Consequently, a far wider field would be opened from which to draw instructors. Then may we hope to see some approach to an ideal course of training for an architect,—commenced in schools and workshops,—as of old, and crowned by what I would call advanced pupilage in offices. And in connexion with this, I am not ashamed to again put forward a pet project of mine which I have already advanced. It is that of Pupil Scholarships, similar to what exist for the Bar, at the Inner and Middle Temple, whereby successful candidates are enabled to spend a definite period in the chambers of any leader they themselves may decide on reading with,—the necessary premium being paid out of the Scholarship fund.

Of course, some few prejudices would have to be sunk or swallowed on both sides, but that both sides should cheerfully give and take a little, is of the very essence of a good bargain. It would probably conduce not a little to such a result in this case, if only we each did our best to look at the matter as making for (1) the common good of our entire profession as a whole; (2) the general benefit of our own particular society; and (3) the personal advantage to each of us individually, instead of regarding it in the reverse order.

Not that I think anybody even in this case would have any real ground for objection.

But it is so natural and easy, for the best of us, to make a handle of some particular point, in a comprehensive scheme, that may seem to be the least bit unfavourable to us, and to make that a ground for opposing the whole measure. It is so easy to take it for granted that the interests of all must be identical with what one fancies, for the moment, to be one's own.

A fusion of the two bodies would mean power to them for real good, just as their disunion must imply comparative weakness and inefficiency, because involving needless waste of power, which might be economised and directed to more advantage, with more intelligent distribution and application. And not to our two societies alone would the beneficial effect of their joint action be advantageous, but, what is of vastly wider importance, it would be felt in the end as a re-vivifying influence throughout our whole profession. Surely, then, it is for the whole profession to see to it.

Being a member, as I am, of both societies, and not connected in any official capacity,—to speak of,—with either, I have felt no hesitation whatever in saying all I mean concerning both; and I now appeal to the members of both, as individuals, to both societies as organised bodies, and to our great profession at large,—

as a whole, to act up to and discharge the responsibility for the training of its pupils which, I maintain, rests on it as a profession.

This alliance would afford a means,—and, I believe, the best means,—for doing so. Many, perhaps, will be found at first to declare it is inadvisable,—some even that it is impossible. I have ventured to support and urge it in full confidence because I firmly believe it to be not only advisable and feasible, but, even more than that,—ultimately inevitable!*

ARCHITECTURAL SOCIETIES.

LIVERPOOL ARCHITECTURAL SOCIETY.—The second ordinary meeting of the present session of this Society was held on Monday evening in the Royal Institution, Colquitt-street. Mr. T. Mellard Reade, President, occupied the chair. Mr. J. H. Woodhouse, of Manchester, read an exhaustive paper, the subject of which was, "A few Recent Notes in Holland and Belgium." Aided by a number of sketches, he described the architectural and other features of the principal towns in the countries named, and received at the close a cordial vote of thanks.

MANCHESTER SOCIETY OF ARCHITECTS.—At the annual meeting of the Manchester Society of Architects, held on the 30th ult., Mr. R. Knill Freeman, F.R.I.B.A., was re-elected president. In the students' competition, the first prize of seven guineas was awarded to Mr. Roger Oldham, and the second of five guineas to Mr. Harold Brakspeare.

THE LONDON COUNTY COUNCIL.

THE ordinary weekly meeting of this Council was held on Tuesday last, Sir John Lubbock in the chair.

The Bethnal-green Slum Scheme.—Nearly the whole period of the sitting of the Council was occupied by the adjourned discussion of the report of the Housing of the Working Classes Committee recommending the removal of a large slum in Bethnal-green (see text of the report in our last issue (p. 347).

After nearly four hours' debate, Mr. Watney's amendment, the terms of which we gave last last week (p. 348), was rejected by 41 votes,—72 votes against, to 31 votes for.

Mr. Beachcroft then moved as a further amendment:—

"(*a*) That the Council, whilst satisfied that the area comprised in the official representation from Bethnal-green is an unhealthy one, considers, having regard to the provisions of the Housing of the Working Classes Act, 1890, and to the requirements of other districts in London, that it should be dealt with partly by an improvement scheme under Part I. of the Act, partly by a scheme or schemes under Part II. of the Act, and, as to the remainder of the area, under the provisions of the Act relating to unhealthy dwelling-houses and obstructive buildings; that accordingly the portion of the area to be dealt with under Part I. be the part lying to the east of and including the area of the road marked on the plan before the Council as intended street running north and south from Virginia-road to Church-street, and including sufficient land to the west thereof for the purpose of building frontage, but excluding that part of the area which lies on the east side of Mount-street (the estimated net cost of such an improvement scheme, including roads and sewers, being 138,000*l.*) and that the requisite resolution under Section 4 of the Act be passed accordingly.

(*b*) That the draft scheme submitted by the Committee, modified in accordance with the foregoing resolution, be approved, and that it be referred to the Committee to take all necessary steps for depositing and obtaining confirmation thereof, and further, that it be an instruction to the Committee to represent to the local authority that the part of the area on the east side of Mount-street, and the part lying centrally between Fournier-street and Half-Nicoll-street, should be dealt with by that authority by an improvement scheme or schemes under part 2 of the Act, and the provisions of the Act in regard to unhealthy houses and obstructive buildings rigorously enforced as to the remainder of the area; and that failing prompt action by the local authority, the Committee be authorised to take such initial steps as they may see fit to give effect to this resolution, reporting thereon to the Council."

This amendment was seconded by Mr. Costelloe, and after a short discussion, it was rejected by a majority of 24 votes,—58 votes against to 34 votes for.

The recommendations contained in the Committee's report were then formally agreed to, with the following additions, moved by Mr. Marsland, and accepted by Lord Compton as Chairman of the Committee, viz.,

"And that it be an instruction to the Committee to report to the Council, before proceeding to carry out the scheme when it is confirmed, as to what steps will be taken to limit as far as possible the amount of compensation to owners of insanitary houses, and also as to their proposals for a gradual clearance of the area and for the rehousing of those displaced by the scheme."

The Council then adjourned.

* We are obliged to hold over the papers read by Mr. Needham Wilson and Mr. Owen Fleming, together with some notes of the discussion which followed, until next week.

Correspondence.

To the Editor of THE BUILDER.

BERMONDSEY FREE LIBRARY COMPETITION.

SIR,—It will be in the recollection of your readers who were interested in this competition how the Library Commissioners violated, without apology or explanation, their own specific conditions which they laid down for the conduct of this competition.

Yet another instance has to be recorded. I have received a list of tenders sent in on the accepted design. The highest, 8,840*l.*, the lowest,—Messrs. H. & H. F. Higgs,—7,030*l.*, *as amended and accepted*, 6,170*l.* The conditions gave an outlay of "5,000*l.*, or thereabouts." COLE A. ADAMS.

Westminster, Nov. 4.

TENDERS FOR WORKS AT THE WOOLWICH UNION.

SIR,—I beg to call your attention to the terms offered to builders wishing to complete for the proposed additions to the above Union House, as set forth in the advertisement in the *Builder* of Saturday last, viz., that every builder competing shall deposit with the architect of the board a 50*l.* bank-note until the *completion of the contract*. From an intimate acquaintance with building contracts of late years, I know that through keen competition and want of proper organisation, many builders now sign, perhaps, the most inequitable contracts offered in any trade, but I should hope they will not be tempted to deposit for several months a large sum of money without interest with a parochial board. MATTHEW H. HADLAND.

30, *New Bridge-street, E.C.*, November 4.

DEATH IN THE VENTILATOR.

SIR,—Notwithstanding all that has been published in the professional and trades journals about the danger to the occupiers of houses when no provision is made for the prevention of the siphonage of the water-traps of the closets, we find within the last few weeks a firm of gas engineers actually advertising and recommending the use of an appliance for soil-pipes, which if used would have the effect of causing siphonage of the water-traps of the closets, and so allowing the houses to get polluted with foul air from the soil-pipes!

I refer to a ventilator or cowl with a balanced valve upon the top of the pipe inside of the cowl, which valve shuts against any attempt at down-draught. Now as the ventilating pipe of a soil-pipe is put up for the purpose of letting air in (for the prevention of siphonage) as well as for letting it out, it follows that one of the principal uses of the soil-pipe ventilator is counteracted by the insertion of this anti-down-draught valve upon the top of the soil-pipe.

The use of this valve is being puffed up as a grand new A.D. 1890 idea, but it so happens that it was invented by me about twelve years ago, and it was referred to by the late Mr. Wm. Eassie, C.E., the well-known sanitary engineer, in his "Dictionary of Sanitary Appliances," as mine. It was not intended to be used for ventilating soil-pipes, however, so for the safety of the public and the credit of the plumbing trade I respectfully ask you to publish this caution, so that neither plumbers nor any other persons may put a ventilator with a self-closing anti-down-draught valve upon the top of any soil-pipe; and, further, if any person has already, owing to ignorance of its bad effect, or unthinkingly, put up one, it should be immediately taken down and the valve removed.—I am, &c.,

W. P. BUCHAN.

Glasgow, November 3, 1890.

THE "STUDENT'S COLUMN."—In consequence of unusual pressure on our space, we are compelled to postpone this week's chapter of the Student's Column to our next issue.

GENERAL BUILDING NEWS.

THE NEW SCOTLAND-YARD.—The new headquarters for the Metropolitan Police are now practically completed, and have been on view this week. We are obliged to hold over our description of the building until next week.

THORNE, NEAR DONCASTER.—Messrs. William Lewis & Son, architects, of York, have prepared plans for a new farm-house on the Levels estate. The work has been let to Messrs. Smith Bros., contractors, Thorne. For the Heslington estate, in Yorkshire, the same architects have prepared plans for covered folds, with alterations and repairs, to about forty farmsteads on this estate. The contracts have been let to different contractors.

CHURCH EXTENSION AT WESTON-SUPER-MARE.—The new south aisle of the parish church of St. John, Weston-super-Mare, was opened by the Bishop of Bath and Wells on the 29th ult. The new aisle has three windows, with Perpendicular tracery and transoms. The buttresses have pinnacles enriched with crocket terminals and traceried panels, and the gallery ceiling is of panelled wood-work. The arcading is executed in stone-work, with panels and angle columns. A new two-light window has been introduced in the south side of the church, and the two old windows from the south aisle have been utilised in the west and east ends of the galleries, with additional windows on each side of the tower. The whole of the new windows are filled with cathedral-tinted glass, enriched with borders of antique stained glass. This portion of the work was entrusted to Messrs. Bell & Sons, College-green, Bristol. The ventilation and heating of the edifice generally have been improved and extended. The total church accommodation is now 1,212 persons. The contractors for the general work were Messrs. Hawkins & Son, of Glastonbury, and the plans were prepared by Messrs. Price & Wooler, of Weston-super-Mare. The total cost of the enlargement is 1,600*l.*

NEW SCHOOLS, SHEFFIELD.—The foundation-stone of new schools and mission hall about to be erected in connexion with the church of St. Bartholomew, Sheffield, was laid on the 25th ult. The building is to contain large kitchen, store-room, coal-place, and heating-vault. On the ground-floor there will be an entrance lobby, an inner cloak-room, &c., and the boys' school, 64 ft. 6 in. long by 22 ft. 6 in. wide. In this room iron roller shutters will be placed so as to cut off, when required, a separate room, 22 ft. 6 in. long by 18 ft. wide, having a separate outer door. The upper floor will be a repetition of the room below. The total cost will be 1,500*l.* The architect is Mr. J. B. Mitchell-Withers, F.R.I.B.A., of Sheffield. The contractors are Mr. James White (mason), Mr. W. Gee (joiner), and Mr. Mills (plumber).

NEW WESLEYAN CHAPEL FOR WALTON.—On the 29th ult. a new Wesleyan Chapel, which has been erected in Brook-road, Walton, was formally opened by Mr. Isaac A. Mack. The new edifice is in the Liverpool (Bootle) circuit. Its total cost is about 3,700*l.* Accommodation is provided for 600 worshippers. The plan of the chapel includes nave and transepts. The architects are Messrs. Briggs & Wolstenholme, Liverpool and Blackburn; and the builder Mr. M'Dermott, of Liverpool and Bootle.

NEW PUBLIC BUILDINGS FOR SOUTH STOCKTON.—On Saturday afternoon, the 25th ult., Mr. John Steel (chairman of the South Stockton Local Board) laid the foundation-stone of new public buildings for that town. The site is close to the railway-station. Mr. J. M. Garry, of West Hartlepool, is the architect of the building, and Mr. W. C. Atkinson, of Stockton, the builder.

REREDOS, ST. GEORGE, EASTON-IN-GORDANO, NEAR BRISTOL.—The fine church of St. George, at Easton-in-Gordano, has just received, at the hands of Mr. Henry Mirehouse, a reredos, made of polished alabaster and English marble. The work rests upon a massive retable of Ipplepen (Devon) red variegated marble, and consists of a triple array of recessed panels, with cusped and crocketted gables, all in alabaster. The heads of the arches are supported by carved capitals, resting upon serpentine (Cornish) columns. The figures are carved in high relief, and are in outline the more vividly shown by backgrounds of gold tesseræ. The central group represents the birth of our Lord, those on either side contain groups of attendant angels. The work has been executed by Mr. Harry Hems, of Exeter.

A NEW CHURCH FOR LANGLEY.—The new church of St. Michael and All Angels, at Langley, near Birmingham, was consecrated by the Bishop of Worcester on the 30th ult. The church is planned to accommodate 617 worshippers. The nave is 75 ft. long by 24 ft. wide. On the north side are the choir and clergy vestries, also the organ chamber. In the designing of the church a simple treatment in brick and stone of the early decorated Gothic style of architecture has been adopted. The western gable has a four-light traceried window, with stone shafts and arches; also a three-light piercing above. The east end has triplet windows, with stone joints, shafts, and arches. The north and south elevations are pierced with three-light windows. Internally the piers are of stone

with moulded red brick arches and plastered walls. The chancel has a barrelled wooden roof. The floors under the seats are laid with wooden blocks upon concrete, and the aisles with tiles. The chancel-window is composed of three lights, the work having been executed by Mr. Samuel Evans, of West Smethwick, and is the gift of Mr. A. M. Chance. The centre light depicts the Crucifixion of our Lord. The other figures in the group include Mary, the Mother of Jesus, St. John, and Mary Magdalene. The whole is worked upon a background of grisaille ornament. The bricks for walling have mostly been supplied by the Cakemore Brick Company. The ornamental facing and moulded bricks are from the works of Messrs. J. King & Co., at Stourbridge. The exterior stonework is best Hollington, and the interior dressings are in Bath stone. The heating-service is by Mr. J. Grundy, of London. Mr. Cox has been clerk of the works, and the whole of the work has been carried out by Mr. T. Rowbotham, of Birmingham. The joint architects are Messrs. Osborne and Reading, of Birmingham, and Messrs. Wood and Kendrick, of West Bromwich. The contract for the erection of the church was for 4,700*l.*

NEW CHAPEL AT SMALL HEATH.—The memorial stones of a Baptist chapel at Small Heath, near Birmingham, were recently laid. The site of the buildings is situated at the corner of Coventry-road and Jenkins-street, and will be occupied by an institute with committee-rooms and cloak-rooms on the ground-floor; a chapel, 74 ft. long and 50 ft. wide, and capable of holding 700 people; lobbies, vestries, and organ chamber. The frontage to Jenkins-street is occupied by a lecture-room holding 400 persons; while a caretaker's house stands at the extreme end of the site. The chapel is cruciform in shape, with accommodation for the choir in an octagonal apse, and organ-chamber and vestries at the rear. The building, which will cost 3,000*l.*, is in the Gothic style of architecture, with terra-cotta facings, and is being carried out by Mr. T. Johnson, contractor, of Nechells, to the designs and under the superintendence of Messrs. Ingall & Son, architects, Birmingham.

SANITARY AND ENGINEERING NEWS.

THE WATER SUPPLY OF DENBY.—Colonel C. H. Luard, R.E., an inspector of the Local Government Board, recently resumed his inquiry, begun on August 20, at Denby National School, into an application by the Denby Local Board for sanction to borrow 6,000*l.* for the purpose of constructing a reservoir of the capacity of 100,000 gallons, and other works, for the better supply of the district with water. Mr. G. H. Crowther, C.E., Huddersfield, gave evidence on behalf of the Board. Six bottles of water were produced as specimens of the water proposed to be taken, and by reason of its dirty colour caused a great deal of amusement. Against this, however, there were two analyses showing the water to be very good. Mr. Maudsley, Clerk to the Dewsbury and Heckmondwike Water Board, said that that Board had power to supply the district if the Denby Board would take water from them. The inquiry was then closed.

DUNDEE WATER SUPPLY.—On the 30th ult. the Works Committee of the Water Commission of Dundee approved of the plans and sections submitted with reference to the proposed extension and improvement of the water supply of the city, and recommended the Board to promote a Bill in the ensuing session of Parliament for power to carry out the projected works. The Commissioners propose to relay the old main in the Valley of Strathmore with stronger pipes; to double the main between Pitnappie and Dundee, giving a second pipe the whole way to Lintrathen; to increase the storage capacity at Lintrathen by raising the banks, &c.; to reduce the compensation supply; and to extend the compulsory supply area so as to include Tayport, Downfield, Monifieth, and other districts. The estimated cost of the work is about 70,000*l.*

STAINED GLASS AND DECORATION.

MANCHESTER CATHEDRAL.—At the Cathedral, Manchester, on the 27th ult., a new stained-glass window, at the west end of the north clearstory, was presented to the authorities by Mr. R. L. Monk. The window, which has been prepared by Messrs. Clayton & Bell, represents "Aaron offering the Sacrifice on the day of Atonement."

NEW WINDOW, ST. JOHN'S CHURCH, RANMOOR.—A new memorial window, presented by Sir Frederick T. Mappin, Bart., has just been placed in position at the head of the chancel of St. John's Church, Ranmoor. The subject represents the Crucifixion. The window contains three openings. The central panel contains a figure of the Saviour on the Cross, surrounded by ministering angels, who bear emblems of the Passion. In the left-hand panel are the Holy Women and the Virgin. In the right panel is St. John the Evangelist, the patron saint of the church, while behind him stands the faithful centurion and soldier. Below the three principal lights the artist has dealt with a supplementary subject, representing the recumbent figure of the dead Christ in the arms of the Virgin Mother. The work has been executed by Mr. W. F. Dixon, of London.

FOREIGN AND COLONIAL.

DRESDEN.—The travelling studentship of the Saxon Royal Academy (150*l.* for two years) which fell to the Architectural division this year has been gained by a pupil of Professor Lipsius, Herr Theobold Hofmann. According to the *Deutsche Bauzeitung*, the prizeman is the same who won last year's Academy medal and this spring obtained the Semper studentship.—A new town hospital is to be built here; 708,000 marks, or nearly 35,400*l.*, have already been granted by the authorities for this purpose.

SWITZERLAND.—The Bundesrath has passed a decree ordering the formation of a National Museum, the collections of which are to be housed in a monumental building having not less than 3,000 square mètres superficial area of exhibition rooms; the site and moneys for the erection of which will be found by the canton in which it is to be situated.——The Government has granted 910,000 francs and 360,000 francs respectively, for the erection of new general telegraph offices at Bern and Thun.——Zurich is to have electric lighting, the Municipal Authorities have granted a credit of 2,317,000 francs for this purpose.

ROUMANIA.—The foundation-stone of the long-planned Danube bridge at Cernavoda was laid last month, in presence of the King. This bridge, or, rather, long system of alternate bridges and viaducts (the designs for which were open to competition, 1882), will be carried out under the superintendence of the chief-engineer of Roumanian railways, Mons. A. Saligny, at a cost very close on 1,000,000*l.*

COLOGNE.—At the great fire in the machinery hall of the Military Exhibition occurred an interesting example of the fire-resisting faculties of a plaster wall on wire grounding, constructed according to the "Rabitz" system (German patent, No. 4,590), the fire (of intense heat) being kept from spreading into the adjoining division by such a wall, of some 200 square mètres surface and only 5 cm. thickness, so completely, that drapery hanging on the further side was not even singed (*Deutsche Bauzeitung*). The Rabitz work has of late been much used in Germany for buildings required to be heat and fire proof. In the new Halle Theatre, the minor partitions, the floors and ceilings of the tiers, &c., are of this composition.

MISCELLANEOUS.

BIRMINGHAM LAW COURTS.—In referring to this building last week, we wrote by a slip of the pen "Yorkshire stone" for "Portland stone" as the flooring of the great hall. It is Portland in 3 in. slabs.

THE LONGFORD PICTURES.—The *Portfolio* publishes a reproduction of the Holbein recently added to the National, the identity of the portraits in which has been so much discussed recently.

WORKMEN'S DWELLINGS: THE GUINNESS TRUST.—It is stated in the *Daily Chronicle* that the trustees of this fund have already begun operations upon three of the four sites which it is expected will be included within their scheme to provide for a total of 1,000 families, or, say, 5,000 persons. Lord Cadogan has conveyed, upon generous terms, a plot in the Marlborough-road, Chelsea, whereon eight separate blocks will be erected, after the designs of Mr. Macartney, architect. Mr. Pilkington is the architect for a group of dwellings in the Bethnal-green district, where has been acquired the site of some condemned and already vacated buildings at the junction of Hackney-road and Columbia-road, being a triangular-shaped piece of ground about 3,750 yards superficial, and capacious enough to admit of an inner courtyard, to be planted with trees and shrubs. Mr. N. S. Joseph, architect of the industrial dwellings in Brady-street, Whitechapel, has furnished designs for the Brandon-street, Walworth, site, which is 80 by 30 yards superficial, and in the midst of a very large working population. We gather that this provision of accommodation does not involve the disturbance of existing residents. We may add that, according to a return made just twelve months ago for the London County Council, the various Artisans' Dwellings schemes under Cross's Acts have cost a total sum of 1,849,103*l.*, of which amount 1,517,856*l.* was paid "for compensation," 27,066 persons being re-housed for 25,217 displaced.

THE CITY AND SOUTH LONDON ELECTRIC RAILWAY, extending from King William-street to Stockwell, was opened on Tuesday by the Prince of Wales. We will say something about it next week.

LIGHTNING-CONDUCTORS.—For the convenience of London clients, Mr. Joseph Blackburn, of Nottingham, has opened an office at 2, Norfolk-street, Strand.

WATER SUPPLY OF ST. PETERSBURG.—According to a recent report by the British Consul at St. Petersburg, the Russian Waterworks Company long resisted all demands for filtering the water of the Neva before delivery for consumption, a necessary measure owing to the growing impurity of the water, through its pollution at and above that portion of the river from which it was supplied. After much delay the company was obliged to construct filters, through which the water passes before entering the system of pipes. The filtering-beds are on a very large scale, the main one covering 14,000 and the smaller one 6,800 square yards. Together they are capable of supplying 32,484,000 gallons a day. The filter-beds, three feet thick, consist of layers of fine sand, gravel, rubble, and cobble stones, the two latter materials being placed at the bottom. Three feet of earth, covering the top of the filtering vault, secures the water against frost in winter and heat in summer. The water first enters several 4-in. feed pipes extending into the river, thence it flows naturally into a reservoir, 46 ft. 8 in. long, 5 ft. wide, and 18 ft. deep, situate in the main pumping station close to the river bank. From this the water is pumped into an iron tank, 165 ft. long, 4 ft. wide, and 4 ft. deep, from which it runs out through 110 apertures protected with very fine brass sieves placed in an inclined position over the apertures. Passing through these sieves, the water, now considerably free from earthy and other extraneous matter, enters into a basin arranged on both sides of the large reservoir. From this the water is conducted into the above-named filters, situate underground and divided into several compartments, having the appearance of vaulted chambers. The cost of construction of the filtering tanks amounted to 191,379*l.*

TREE-PLANTING.—At a meeting of the Vestry of St. Marylebone on the 30th ult., a further communication was received from the Metropolitan Public Gardens Association as to their offer to contribute conditionally the sum of 100*l.* towards the expense of planting trees in the thoroughfares of the parish.—Mr. Harris, as Chairman of the Works Committee, recommended that the offer be again declined. The trees would cost between 4*l.* and 5*l.* each, and how many would they get for 100*l.*? He quite agreed that Portland-place would make a splendid boulevard if planted with trees, but thought they should do the work themselves.—Mr. Lewis contended that the ratepayers should be consulted on the question, and Mr. Emery said that planting trees meant shutting out air, light, and sunshine. After some further discussion the debate was adjourned.

UNDERGROUND PIPES AND WIRES.—At a meeting of the Strand Board of Works on the 30th ult. Mr. Emden's proposal respecting the subway being made for the storing of the pipes and wires of the gas, water, and electric light companies was discussed, and the matter was referred to the Works and Parliamentary Committee with a view to united action being taken. A memorial will be promoted by all the districts in London to induce the County Council to bring a Bill into Parliament dealing with the subject.

ARCHITECTURAL PARTNERSHIP.—Mr. William Dawes, architect, of London and Manchester, has taken Mr. Francis Frazer Hoyland into partnership, and the style of the firm will in future be "Dawes & Hoyland."

LIVERPOOL ENGINEERING SOCIETY.—The first ordinary meeting of the session of the Liverpool Engineering Society was held on the 29th ult. in the Royal Institution. Mr. Ferdinand Hudleston, the new President, delivered the inaugural address, and dealt with the growth of the Liverpool dock estate, viewed from an engineer's point of view, which, he said, was the most complete dock estate in the world. In his concluding remarks, the president said the two bugbears of the Mersey were the Pluckington Bank and the Bar. The Pluckington Bank would continue to be a nuisance until Tranmere Ferry and Dingle Bank had walls built across them to strengthen the flow of the ebb tide. The size and shape of the bank, however, must always depend very much upon the condition of the low water channel in the upper estuary. He did not think that the Ship Canal works would affect the wanderings of the channel, and thought that the works which were being done in connexion with the bar were satisfactory. In his opinion, training walls might perhaps ruin Liverpool as a port, and kill the trade of Lancashire.

GLAZING.—We understand that Messrs. Shelley & Co., of 55, Lionel-street, Birmingham, have obtained a three years' contract from H.M. War Office for supplying and fixing their patent "Unique" glazing in the Royal Arsenal and Dockyard, Woolwich; Royal Gunpowder Factory and Buildings, Quinton-hill, Waltham Abbey; Royal Small Arms Factory, Enfield Lock; and other Government establishments in England.

KING'S COLLEGE.—The annual prize of 5*l.* given by the Clothworkers' Company for proficiency in mechanical engineering has been awarded this year to Loveridge Frank Potter, son of Mr. W. F. Potter, architect.

CONTRACTS AND PUBLIC APPOINTMENT.

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Paving, &c.	Tynemouth Corp.	J. F. Smillie	Nov. 11
Wiour and Grain Warehouse, Eling, Hants	Neave & Co.	Fred. Bath	do.
Excavating Foundations, Basement Work, &c.	Glasgow Impt. Trust	*Official*	do.
*Making-up Roads and Paving Footways	Willesden Local Board	O. Claude Robson	do.
*Erection of Houses and Alterations, Elgin	The Admiralty	*Official*	do.
*Paving Works	Lewisham Bd. of Wks.	do.	do.
Wheels, Axles, &c.	India Office	do.	do.
*New Wards and Workshops, Plumstead	Woolwich Union	J. O. Cook	Nov. 12
*Fire-escape Staircases, Plumstead	do.	do.	do.
Sewerage Works	Lismore Union	M. R. Hynes	do.
*Stone Floors to Rooms at Workhouse	Shoreditch Guardians	F. J. Smith	do.
*Repairing Roads	Vestry of the Hamlet of Mile End Old Twn	J. M. Knight	do.
*Cast-iron Pipes for Waterworks	Calcutta Corporation	J. Quick & Son	Nov. 13
*Sluice Valves for Waterworks	do.	do.	do.
Alterations to Queen's Park Lodge	Manchester Corp.	*Official*	do.
*Sewerage Works	Barking Town Loc. Bd.	C. J. Dawson	do.
Cast-steel Work, Springs, &c.	Bengal-Nagpur Ry. Co.	*Official*	do.
Laying Water-pipes (5,925 yds.)	Leeds Corporation	T. Hewson	Nov. 14
Cast-iron Pipes	do.	do.	do.
Vicarage, Ystradffin, Llandovery	Rev. Eben Morgan	D. Jenkins	Nov. 15
Alterations to Farmhouse, Redenham, near Andover		Westbury & Son	do.
Diverting a Brook, Paving, Sewering, &c.	Halifax Corporation	E. R. S. Escott	do.
Intercepting Sewer	do.	do.	do.
Street Improvements, Bailey Hall	do.	do.	do.
*Sewerage Works, Poplar	LondonCountyCouncil	*Official*	Nov. 17
*Sewerage Works, Hammersmith	do.	do.	do.
Nine Cottages, Burnopfield, Newcastle-on-Tyne	Burnopfield Co-op. Soc		do.
*New Schools, Tarpaving, and Roadmaking	Barking School Board	C. J. Dawson	Nov. 19
Kerbing, &c.	Leeds Corporation	T. Hewson	do.
Sewers (various districts)	do.	do.	do.
New Schools, Barry Dock Town	Cadoxton, &c. Sch. Bd.	Seward & Thomas	Nov. 20

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Sewerage and Waterworks	Cricklade, &c. Union	J. R. Shopland	Nov. 28
Addition to Lighthouse Tower, Dwelling, Fog-signal House, &c. St. John's Point, co. Down	Com. of Irish Lights	*Official*	Nov. 21
*Batteries, Drill-shed, Magazine, &c.	The Admiralty	do.	do.
*Erection of Schools, &c.	Castleth-rpe Sch. Bd.	H. H. Dyer & Son	do.
*Enlargement of Gloucester Sorting-office	Com. of H.M. Works	*Official*	do.
Widening a Bridge	Smethwick Local Bd.	J. C. Stuart	do.
*Supply and Fixing Valve Hydrants, &c.	Bournemouth Commrs	F. W. Lacey	do.
*Repairs, General Painting, &c. Workhouse	Taunton Union	J. H. Spencer	Nov. 22
Seventeen Houses, Barry	Glyn Building Club	Seward & Thomas	do.
New Fish and Vegetable Market	Dublin Corporation	Spencer Harty	Nov. 23
*Sinking Well, &c.	Newport (I.W.) Corp.	Baldwin Latham	Nov. 25
New Buildings, Ballymena, Ireland	Young Men's Christian Association	Young & Mackenzie	Nov. 26
*House and Stables		C. Kirk, M.A.	Nov. 29
*Quarters for Officers, Brompton, &c.	War Department	*Official*	No date
Ten Cottages, &c. Garforth, Leeds	Garforth Colliery		do.
Excavating 1,400 yds. Gas Mains, near Bell-hill, Leeds	Gas Company		do.
Fifteen Houses, Shops, Stables, &c. Belle-vue-road, Leeds		Jas. Charles & Son	do.
*Samples of Sanitary Fittings	Hornsey Local Board	T. de Courcy Meade	do.
Trial Bore-hole for Water, Filey, Yorks.	Henry Tobey		do.
Alterations to "Albion" Hotel, Newcastle-on-Tyne	R. Emmerson & Sons	B. F. Simpson	do.

PUBLIC APPOINTMENT.

Nature of Appointment.	By whom Advertised.	Salary	Applications to be in
*Sanitary Inspector	County of Perth	300*l.*	Nov. 29

Those marked with an Asterisk (*) are advertised in this Number. Contracts, pp. iv. *and* vi. *Public Appointments, p.* xviii.

THE PLUMBERS' COMPANY.—A number of applicants for registration by the Worshipful Company of Plumbers, under the rules of the National Training and Registration of Plumbers, were examined at the Guilds' Institute on Saturday. There were present applicants from most of the districts of London, as well as from such distant places as Northampton, Lowestoft, Norwich, Shipston-on-Stour, &c. The examinations, while not unduly severe, were such as to thoroughly test the manual skill and theoretical knowledge of the candidates, each of whom, in addition to executing such practical work as pipe-bending, joint-making, lead-laying, &c., was required to answer a set of questions relating to the properties and qualities of the various materials employed by plumbers, external and internal constructions, sanitary arrangements, and water supply. The examiners were Messrs. John Smeaton, W. Titmas, C. T. Millis, J. W. Clarke, and L. F. Gilbert, the last representing the United Operative Plumbers' Association of Great Britain and Ireland. Only half of the total number of candidates succeeded in passing the full examinations. The Company, we are glad to see, is pushing its work in Scotland and elsewhere with much energy.

PUBLIC IMPROVEMENTS AT DARLASTON.—On the 30th ult., Mr. J. Thornhill Harrison, an inspector of the Local Government Board, attended at the Town Hall, Darlaston, for the purpose of holding an inquiry into an application made by the Local Board to obtain a loan of 2,300*l.* to expend in improving the footpaths in the parish.—In reply to the Commissioners, the Surveyor (Mr. Joynson) stated that the total length of roads proposed to be paved was 7,777 yards, and the area 15,554 superficial yards.—The inspector said he would report the whole of the facts adduced to the Local Government Board.

LEGAL.

THE SMOKE NUISANCE AT SALFORD.

AT the Salford Police-court on the 31st ult., before the Stipendiary (Mr. J. Makinson), Messrs. Bailey & Craven, bleachers, dyers, and printers, Agecroft Works, Pendleton, were summoned under the Salford Improvement Act, 1862, for a smoke nuisance. Inspector Thompstone stated that the works are within 500 yards of the borough boundary. In consequence of the furnaces being "pushed," dense smoke was discharged from the chimney for thirty-four minutes in one hour on a recent date. The boilers were constructed to consume their own smoke, and were negligently used. Defendants had been fined twice before. Mr. Holmes, Deputy Town Clerk, who prosecuted, pressed for a continuing penalty. The Stipendiary thought that a continuing penalty could only be applied in cases where the furnaces were not constructed to consume the smoke, and not where action was taken on a single act of negligence, because a single act of negligence could not be "continuing." This, however, was the worst case he had ever heard. It was monstrous that after all the talk about the smoke nuisance this chimney should be allowed to discharge dense smoke over the borough for so long a time. If it was necessary to raze the whole mill in order to abolish the nuisance it must be done.—A fine of 10*l.* and costs would be imposed.—*Manchester Courier.*

MEETINGS.

MONDAY, NOVEMBER 10.

Surveyors' Institution.—Opening address by the President, Mr. R. C. Driver. 8 p.m.

Royal Academy of Arts.—Prof. A. H. Church, M.A., F.R.S., on "Chemistry of Vehicles and Varnishes." 4 p.m.

TUESDAY, NOVEMBER 11.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. J. F. J. Sykes on "Nature of Nuisances, including Nuisances the abatement of which is difficult." 8 p.m.

Royal Society of Antiquaries of Ireland.—Meeting at Dublin. 4 p.m.

Institution of Civil Engineers.—1. Mr. John McLaren on "Steam on Common Roads." 2. Presentation of Medals, Premiums, and Prizes. 8 p.m.

WEDNESDAY, NOVEMBER 12.

London Society for the Extension of University Teaching (Chelsea Centre).—Mr. Walter Leaf on "Homeric Dress and Armour." 5.15 p.m.

THURSDAY, NOVEMBER 13.

Institution of Electrical Engineers.—Professor W. E. Ayrton, F.R.S., Mr. C. G. Lamb, B.Sc., and Mr. E. W. Smith on "The Chemistry of Secondary Cells." 8 p.m.

Royal Academy of Arts.—Professor A. H. Church, M.A., F.R.S., on "Chemistry of Pigments." 4 p.m.

FRIDAY, NOVEMBER 14.

Architectural Association.—A paper to be read on "The Work of the Hon. Amateur Photographer," by Mr. J. L. Robinson, A.R.H.A. 7.30 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. A. Bostock Hill on "Trade Nuisances." 8 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

15,593.—VENEERS: *A. G. Brookes.*—According to this invention, the veneer is made of bamboo or ligneous material, and in order to prepare it for use the under surface of the bamboo is scored in cuts or grooves, so that a better hold may be obtained when the veneer is glued on.

15,737—PORTLAND CEMENT: *W. T. Timewell.*—In order to make cement from hard limestone or Portland stone, the limestone is, according to this specification, reduced to a fine powder, burned, and then ground and re-mixed. The proportions are guided by the quantity of carbonate of lime in the stone and of silica and alumina in the clay, and by an allowance for moisture in either of the materials.

18,474.—FLUSHING APPARATUS: *G. E. Arnold.*—This apparatus for cisterns of wash-out closets is actuated by means of a ball-tap and levers connected with the same.

18,509.—PEDESTAL WATER-CLOSETS: *R. G. L. Burn and another.*—This invention relates to dual pedestal closets, having the trap of the closet arranged sufficiently high to keep a small quantity of water in the bottom of the pan, so that the lower part of the basin is always kept wet, preventing the soil from adhering to it. The basin is made as small as possible, and the flushing rim arranged so that the whole surface is well flushed and the contents discharged down the trapped outlet at the back.

3,671.—HINGES AND DOOR-CHECKS: *B. J. B. Mills.*—This invention relates to a device constituting a combined spring hinge and door check, which may be used as a simple hinge, or by a slight change as a door-check and hinge; a closing spring is provided apart from the hinge itself. The principle is that well known as in use with the American pattern of door closers.

10,974.—DECORATING WALLS: *H. Pickford.*—The decoration, which is the subject of this patent, is called "Crystalline," and is composed principally of broken pieces of natural spar crystals, granite, or stones, which sparkle. The pieces are affixed to the wall in patterns by cement, and the colours being harmonised or contrasted, decorative effect is obtained.

NEW APPLICATIONS FOR LETTERS PATENT.

October 20.—16,648, H. Allison, Paving Stones.—16,656, B. Nicklin, Draught and Ventilating Cowl.—16,666, T. Robertson and W. Wood, Joint for Pipes.—16,678, W. Mansbridge, Ventilation of Sewer Shafts and Buildings, &c.—16,695, W. Wilson, Converting Open Fire-grates into Close Ranges.

October 21.—16,703, G. Caswell and G. Clark, Flushing Cisterns.—16,736, J. Gratton, Automatic Ventilation.—16,737, J. Archer, Material for Covering Roofs.—16,765, C. Rogers, Wood Screws.—16,789, R. Stone, Fireproof Plastic Material for Cement, &c.—16,801, P. Hollick, Cement Sack.

October 22.—16,812, P. Ambler, Ventilator.—16,820, J. Crosthwaite, Rain-water Pipes, &c.—16,850, R. Haddan, Stove.—16,852, J. Mason and others, Treads for Floors, Stairs, &c.—16,854. W. Williamson and R. Styles, Stack, Drain, and other Pipes.—16,861, J. Maxwell, Kitchen Ranges.—16 879, R. Grimaldi, Producing Inlaid Designs on Tiles.—16,883, R. Allen and J. Evans, Clamping and Lifting Apparatus applicable for Laying Parquet Flooring.

October 23.—16,898, H. Lever, Automatic Sash-fastener.—16,907, W. Holbrook, Fastening and Window Stay for Casements, &c.

October 24.—16,962, H. Shepherdson, Preventing Vibration in Windows and Doors.—16,966, D. Gardner, Joining Pipes, &c.—16,993, T. Dawson, Draught and Dust Excluders.—17,008, L. Tirard, Automatically Opening and Closing Windows, &c., according to the temperature.

October 25.—17,047, J. Barclay, Water-closet Basins.—17,059, J. Bayly, Floor Jack.—17,061, J. Bayly, Carpenters' Roll Gauge.—17,072, J. Smith and W. Foster, Cupboard Turns or Fasteners for Doors.—17,074, W. Clegg and G. Kirby, Wall-papers.—17,094, J. Walker and H. Carver, Sanitary Paper-hangings.—17,099, F. Day, Window-fasteners.

PROVISIONAL SPECIFICATIONS ACCEPTED.

13,737, S. Washington, Connecting Lead-pipes, &c.—14,129, E. Wilford, Unions or Couplings for Pipes.—14,513, T. Cobley and W. Elmore, White-lead.—14,790, S. Hill, Adjusting the position of Swing Mirrors, &c.—14,902, C. Huelser, Substitute for Decorative Tiles used for Furniture, &c.—14,969, H. Dickinson, Sky Signs.—14,973, A. Clark, Tool for Setting Saw-teeth.—15,337, J. Bonnardot, Electric Alarm-bells.—15,492, J. Gilmore and W. Clark, Mortising Machines.—15,523, F. Trewinnard, Ventilating.—15,617, A. Rose, Window-fastener.—15,811, H. Hardy, Stays and Fasteners for Casements and Windows.—15,985, L. Kern, Support for Builders' and Decorators' Platform or Stagings.—16,053, W. McLachlan, Mould for the production of Inlaid Designs on Tiles.—16,132, C. Mitchell, Capping for use as a Chimney-top or Ventilating-cowl, &c.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

20,843, F. Parker, Hinges.—12,419, A. Rockwell, Door-bell Mechanism.—12,603, M. Atkinson and D. Stockstele, Brickmaking Machinery.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

OCTOBER 27.—By *C. Slee & Son*: 75, Lennox-rd., Finsbury Pk., u.t. 75 yrs., g.r. 6*l.*, r. 40*l.*, 290*l.*; 32, Dewhurst-rd., Hammersmith, u.t. 91 yrs., g.r. 6*l.* 10*s.*, 400*l.*; 42, 43, and 44, Hall-st., City-rd., u.t. 52 yrs., g.r. 14*l.*, r. 116*l.*, 1,170*l.*; f. residence, "Hawthorne," Bushey, near Watford, r. 36*l.*, 530*l.*; the adjoining house, "Fernleigh," r. 37*l.*, 520*l.*—By *Venton, Bull, & Cooper*: f.g.r. of 8*l.*, with reversion in 83 yrs., Walthamstow, 180*l.*—By *J. A. Trythall*: 41 to 44, Forster-rd., West Croydon, u.t. 75

yrs., g.r. 19*l.* 12s., 150*l.*—By *J. A. Eggar:* f. house, Hindhead, Surrey, and 121a. 1r. 31p., 4,000*l.*; a plot of f. land, 2a. 3r. 10p., 150*l.*; f. coppice and allotment f. land, 2a. 3r. 10p., 150*l.*; f. arable land, 23a. 0r. 11p., land, 15a. 2r. 33p., 480*l.*; f. arable land, 75*l.*; "Green Cross 610*l.*; a plot of f. land, 1a. 2r. 11p., 75*l.*; "Green Cross Farm," 41a. 2r. 28p., f., 1,000*l.*; a plot of f. land, 1a. 3r. 23p., 60*l.*

OCTOBER 28.—By *R. A. Notley:* "Ashby House," Warley-rd., Brentwood, f., 1,200*l.*; l.g.r. of 20*l.*, Bermondsey, g.r. 15*l.*, u.t. 30 yrs., 77*l.*; 52, 54, and 56, Upper Kennington-lane, Kennington, r. 102*l.*, 290*l.*—By *Boyce & Evens:* 50, Essex-st., Hoxton, u.t. 79 yrs., g.r. 6*l.* 10s., r. 45*l.*, 340*l.*; 58, Essex-st., u.t. 79 yrs., g.r. 1*l.* 5s., r. 45*l.*, 430*l.*; 23 to 31, Lenthall-rd., Dalston, u.t. 64 yrs., g.r. 31*l.* 10s., r. 170*l.*, 1,495*l.*; 55 to 61 (odd), Albert-rd., u.t. 60 yrs., g.r. 30*l.* 15s., r. 206*l.*, 2,070*l.*; 44 and 46, Cavendish-st., Hoxton, u.t. 39 yrs., g.r. 5*l.* 5s., r. 45*l.*, 385*l.*; 20, 22, and 24, Alma-st., u.t. 46 yrs., g.r. 15*l.*, r. 108*l.*, 1,050*l.*—By *Driver & Co.:* Nos. 18 and 20, "The Oxford Music Hall," Oxford-street, u.t. 20 yrs., g.r. 225*l.*, 27,100*l.*; a plot of f. land and six cottages, Putney-bridge-rd., 2,920*l.*

OCTOBER 29.—By *R. Tidey & Son:* 185, Southgate-rd., Islington, u.t. 41 yrs., g.r. 5*l.*, 380*l.*; 27, Norfolk-rd., u.t. 69 yrs., g.r., 5*l.*, r. 34*l.*, 330*l.*; 55, Ockendon-rd., u.t. 51 yrs., g.r. 6*l.*, r. 38*l.*, 405*l.*—By *E. Smith & Co:* 20, Leigh-rd., Highbury, u.t. 39 yrs., r. 32*l.* 10s., 550*l.*—By *W. W. Jenkinson:* No. 36a, 1 to 6, Percy-pl., and 7 and 7½, Tottenham-ct.-rd., u.t. 14½ yrs., g.r. 105*l.*, r. 338*l.* 16s., 350*l.*; 13 to 19 (odd), Navarino-rd., Hackney, u.t. 63 yrs., g.r. 20*l.* 12s. 6d., r. 200*l.*, 1,790*l.*; 146 to 154 (even), Sandringham-rd., u.t. 76 yrs., g.r. 26*l.*, r. 178*l.*, 1,590*l.*; 207 and 209, Queen's-rd., Dalston, u.t. 37 yrs., g.r. 16*l.*, r. 120*l.*, 1,020*l.*

OCTOBER 30.—By *Messrs. Aldridge:* F.g.r. of 32*l.*, with reversion in 91 yrs., Cedars-rd., Sutton, 800*l.*—By *F. W. Chard:* No. 95, Brixton-rd., u.t. 11 yrs., g.r. 7*l.* 7s., 195*l.*—By *Newbon & Harding:* 28, 30, and 32, Milton-grove, Holloway, u.t. 79 yrs., g.r. 20*l.* 10s., 400*l.*; Profit rental of 25*l.*, u.t. 3 yrs., St. John's Wood, 36*l.*; Nos. 49 and 51, Hornsey-rd., u.t. 73 yrs., g.r. 14*l.*, 410*l.*; 23, Corbyn-st., u.t. 80 yrs., g.r. 5*l.* 10s., r. 33*l.* 16s., 250*l.*; 109, Newrd., Whitechapel, u.t. 64 yrs., g.r. 36*l.*, 290*l.*—By *F. S. Priest:* F.g.r. of 7*l.* 10s., with reversion in 95 yrs., Greenhill-rd., Harlesden, 175*l.*—By *E. Stimson:* 1, Kemerton-rd., Brixton, u.t. 82 yrs., g.r. 6*l.* 10s., r. 38*l.*, 275*l.*; 7, 9, and 11, Clifton-cres., Peckham, f., 780*l.*; 1 to 8, Totness-ter., and 1 to 4, Totness-cottages, Millwall, u.t. 26 yrs., g.r. 58*l.*, r. 232*l.* 14s., 395*l.*; 1, Billingsgate-st., 10 to 16 (even), York-st., and 1 to 8, Sexton's-pl., Greenwich, f., r. 185*l.* 18s., 630*l.*; 1 to 9 (odd), Prince Edward-rd., Hackney, u.t. 81 yrs., g.r. 15*l.*, r. 75*l.* 8s., 235*l.*; 10 and 12, Endymion-rd., Brixton, u.t. 89 yrs., g.r. 13*l.*, r. 72*l.*, 660*l.*—By *Reynolds & Eason:* 375, Norwood-rd., Tulse-hill, f., r. 100*l.*, 1,110*l.*; 108 and 110, Oakfield-rd., Anerley, f., r. 65*l.* p.a., 815*l.*; 133, 135, and 137, Upper Kennington-lane, Kennington, c., r. 110*l.*, 1,500*l.*; "Cleveland Lodge," Drayton Green, Ealing, c., r. 95*l.*, 1,400*l.*—By *Osborne & Mercer:* f. residence, "The Cedars," Leamington Spa, 4,350*l.*; "Elliot's Farm," the Berkeley Estate, Frome, Somerset, 33a. 0r. 7p., f., r. 76*l.*, 2,020*l.*; "Elliot's Green Farm," 21a. 2r. 23p., f., r. 47*l.* 5s., 1,310*l.*; "Elm Farm," 16a. 2r. 36p., f., r. 36*l.*, 810*l.*; numerous enclosures of land, 81a. 3r. 8p., f., r. 120*l.* 12s., 4,226*l.*

OCTOBER 31.—By *R. W. Scobell:* 6 and 8, Cambrian-rd., Richmond-hill, u.t. 61 yrs., g.r. 14*l.* 14s., 600*l.*—By *Morley & Letts:* 112 and 118, Fernhead-rd., St. Peter's-pk., u.t. 72 yrs., g.r. 19*l.*, 955*l.*—By *Messrs. Leage:* 48, Hildrop-cres., Camden-rd., u.t. 60 yrs., g.r. 8*l.*, 410*l.*—By *R. A. Enright:* 129, Winston-rd., Stoke Newington, u.t. 70 yrs., g.r. 5*l.*, r. 30*l.*, 295*l.*—By *E. F. Taylor:* "Woodside," Baronsmere-rd., East Finchley, u.t. 93 yrs., g.r. 6*l.* 3s., 390*l.*—By *Simmins, Gasson, & Ellis:* "Reynold's Farm," Nuthurst, near Horsham, 15a. 1r. 27p., f., ex timber, 810*l.*—By *Cooper & Goulding:* 6, South-st., Battersea, u.t. 72 yrs., g.r. 7*l.*, r. 36*l.*, 200*l.*

[*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.	£. s. d.	£. s. d.
Greenheart, B.G. ....ton	6 15 0	7 5 0
Teak, E.I. ....load	10 0 0	13 0 0
Sequoia, U.S. ....foot cube	0 2 3	0 3 0
Ash, Canada ....load	2 10 0	4 5 0
Birch ,, ...,,	2 5 0	4 5 0
Elm ,, ...,,	3 10 0	4 15 0
Fir, Dantsic, &c.	2 0 0	3 15 0
Oak ,, ...	2 10 0	4 10 0
Canada ,, ...	5 0 0	6 10 0
Pine, Canada red	2 10 0	3 10 0
,, yellow	2 0 0	5 10 0
Lath, Dantsic ....fathom	5 0 0	6 0 0
St. Petersburg	5 0 0	7 0 0
Deals, Finland, 2nd & 1st. std. 100	7 10 0	10 0 0
,, ,, 4th and 3rd	7 0 0	7 5 0
Riga	6 0 0	8 10 0
St. Petersburg, 1st yellow	9 10 0	14 10 0
,, 2nd ,, ...	7 10 0	9 0 0
,, white	7 0 0	10 0 0
Swedish	7 0 0	15 0 0
White Sea	8 0 0	17 0 0
Canada, Pine, 1st	13 0 0	24 0 0
,, ,, 2nd	9 0 0	16 0 0
,, ,, 3rd, &c.	7 0 0	10 0 0
,, Spruce, 1st	8 10 0	10 10 0
,, ,, 3rd and 2nd ..	6 10 0	8 0 0
New Brunswick, &c.	5 10 0	7 10 0
Battens, all kinds	4 10 0	15 10 0
Flooring Boards, sq., 1 in., prepared, First	0 10 0	0 14 0
Second	0 8 0	0 10 6
Other qualities	0 5 6	0 7 9
Cedar, Cuba ....foot	0 0 3½	0 0 4½
Honduras, &c.	0 0 3½	0 0 4½
Mahogany, Cuba	0 0 4½	0 0 6½
St. Domingo, cargo average ..	0 0 4½	0 0 6½
Mexican ,, ...	0 0 4½	0 0 5½
Tobasco ,, ...	0 0 5½	0 0 6½
Honduras ,, ...	0 0 5½	0 0 6½

TIMBER *(continued)*.	£. s. d.	£. s. d.
Box, Turkey ....ton	4 0 0	13 0 0
Rose, Rio	12 0 0	19 0 0
Bahia	11 0 0	18 0 0
Satin, St. Domingo....foot	0 0 2	0 1 2
Porto Rico	0 0 10	0 1 6
Walnut, Italian	0 0 4	0 0 7
METALS.		
IRON—Bar, Welsh, in London tn	6 10 0	6 17 6
,, ,, at works in Wales	6 0 0	6 10 0
,, Staffordshire, in London..	7 0 0	8 0 0
COPPER—British, cake and ingot	62 0 0	63 0 0
Best selected	65 0 0	66 0 0
Sheets, strong	71 0 0	0 0 0
Chili, bars	58 0 0	0 0 0
YELLOW METAL....lb.	0 0 6¾	0 0 6¾
LEAD—Pig, Spanish ....ton	14 5 0	14 7 6
English, com. brands	14 10 0	14 12 6
Sheet, English, 3 lbs. per square foot and upwards....	16 10 0	0 0 0
Pipe	17 0 0	0 0 0
ZINC—English sheet ....ton	27 5 0	27 10 0
TIN—Straits	97 0 0	0 0 0
Australian	97 0 0	0 0 0
English Ingots	0 0 0	0 0 0
OILS.		
Linseed ....ton	22 2 6	22 10 0
Cocoanut, Cochin	33 10 0	34 0 0
,, Ceylon	32 0 0	32 10 0
Palm, Lagos	29 0 0	0 0 0
Rapeseed, English pale	28 15 0	0 0 0
,, brown	27 5 0	0 0 0
Cottonseed, refined	19 0 0	0 0 0
Tallow and Oleine	21 0 0	40 0 0
Lubricating, U.S.	5 0 0	6 0 0
,, refined	7 10 0	12 0 0
TAR—Stockholm....barrel	1 1 6	0 0 0
Archangel	0 15 0	0 0 0

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *noon on Thursdays.*]

BASINGSTOKE.—Accepted for making the glass roof of the Corn Exchange watertight, on Rendle's system, Basingstoke, for the Corporation. Mr. Harry Budden, Borough Surveyor, Basingstoke:—
Glover & Milson, Basingstoke £109 0 0

BEDFORD.—For the erection of a lodge at the Recreation-ground, Bedford, for the Corporation. Mr. Bernard Powell, architect, Bedford:—

W. Haynes	£370 0	D. & F. Francis	£338 10
T. Coleman	358 15	H. Walker	338 0
G. Harrison	347 0	F. Corby	327 10
J. P. White	343 0	G. Fathers (accepted)	325 0

[All of Bedford.]

BISHOPSTOKE.—For converting old rooms on the first floor of "The Anchor," Bishopstoke, into a club-room, for Messrs. Strong & Co. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—
J. Nichols, Southampton (accepted) £158 0 0

BITTERNE.—For additions and alterations to "The Cottage" Bitterne, near Southampton, for Mr. C. B. Paris. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—

D. Haines	£623	T. J. Jukes	£498
H. Stevens & Co.	568	Witt & Sons	465
W. H. Chapman	568		

CHOKEFORD.—For building new stables and coach-house, for Mr. Dawson Spooner. Mr. William Dunn, architect, King William-street, Strand, London:—
T. Cottle, Plympton £210 0 0
[No competition.]

CROYDON.—For repairing roads, &c., at Croydon, for the Corporation of Croydon. Mr. W. Powell, Borough Road Surveyor, No. 8, Katherine-street, Croydon:—

Hurst-road.

E. & W. Iles	£207 9 10	H. Lake	£176 18 10
W. Langridge	179 4 2	A. Bullock, Croydon*..	166 16 4

Blunt-road.

E. & W. Iles	£159 2 1	H. Lake	£135 17 4
W. Langridge	138 6 11	A. Bullock, Croydon*..	128 16 7

Benson-road.

E. & W. Iles	£378 7 10	A. Bullock	£315 2 7
W. Langridge	£341 0 3	H. Lake, Croydon*	305 14 3

* Accepted.

CWMBRAN.—For works in connexion with the construction of a cemetery, near Cwmbran, for the Llantarnam Local Board. Mr. Benjamin Lawrence, architect, Austin Friar's-chambers, Newport, Mon.:—

For Chapel, Lodge, and Boundary-walls.

W. H. Parfitt	£1,669	H. B. Sketch, Cwmbran (accepted)	£1,430
J. Linton	1,641		
J. Jenkins	1,588		

	For Drainage.	*For Roads.*
J. Linton	£229 0 0	£194 0 0
T. Jones	523 0 0	105 13 0
W. H. Parfitt	295 0 0	114 0 0
J. Kiwell	356 11 0	80 15 0*
H. Whitaker	349 14 11	118 5 4
W. Pardoe	441 7 6	200 0 0
H. B. Sketch	253 10 0	110 10 0
T. Williams	340 10 0	180 0 0
J. Jenkins, Newport	295 0 0*	106 0 0

* Accepted.

DERBY.—For the erection of two emergency staircases at the Workhouse, Derby, for the Derby Union Guardians. Messrs. Coultlurst & Booty, architects, 4, Albert-street, Derby. Quantities supplied:—

Gratton	£110 0 0	Brown	£96 0 0
Radford	104 0 0	Bakewell	94 0 0
Walkerdine	103 6 0	Wallis	90 0 0
Vernon	99 0 0	Parker	85 12 0
Downham	98 5 0	Edwards (accepted)	81 0 0

EASTLEIGH (Hants).—For alterations and additions to "The Home" tavern, Eastleigh, for Messrs. Strong & Co., of Romsey. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—

H. Stevens & Co.	£1,497	W. R. Light & Co., Portsmouth*	£1,330
J. Bull, Sons, & Co., Lim.	1,396		
J. Nichols	1,369		

* Accepted.

EASTLEIGH.—For new shop-front to house, Market-street, Eastleigh, for Mr. A. E. Matthews. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—

Morgan, fated, & Morgan	£219 0 0	J. Nichols	£190 0 0
J. W. Rowland	123 10 0	J. F. Barr, Southampton (accepted)	112 0 0

GATESHEAD.—For additions to Cemetery Superintendent's house, Gateshead. Mr. J. Bower, Borough Surveyor, Town-hall, Gateshead:—

J. T. Simpson	£156	G. Smith	£125
R. R. Stoney	132	F. Warnfield	119
R. Mitchinson	130	R. McKew, Gateshead*	117

* Accepted.

GUILDFORD.—For making and draining the Semaphore-road continuation, Guildford, for the abutting owners. Messrs. Peak & Lunn, surveyors, Guildford:—

Geo. Garnett	£255 0 0	G. A. Franks	£183 0 0
Mitchell Bros.	230 0 0	E. & A. Miles	177 13 2
R. Smith	215 0 0	G. W. How	169 11 6
W. H. Wheeler	194 0 0	S. Kavanagh, Surbiton*	149 0 0

* Accepted.

HARLESDEN.—For the erection of a public elementary school in Acton-lane, Harlesden, for the Willesden School Board. Mr. James Martin Brooks, architect, 35, Wellington-street, Strand, W.C.:—

Reed & Co.	£4,956	Ratley	£3,784
Wilmot & Sons	4,198	Allen & Sons	3,755
Lidstone	4,185	Simmons	3,708
Cowley & Drake	4,100	Chinchen	3,700
Brass & Son	3,959	Nye	3,695
Stimpson & Co.	3,888	Watson	3,630
Plew & Co.	3,809	Collinson, Teddington* ..	3,540
Rudd & Son	3,795	Jones & Co.	3,423

* Accepted.

HASTINGS.—For proposed new buildings in Castle-road. Mr. Mark Lansdell, architect:—

W. R. Warman	£766	Taylor Bros	£705
J. Lester	749	D. H. Snow	705

HAYES.—For the erection of a pair of cottages at Hayes, Kent, for Mr. A. C. Norman. Messrs. Waring & Nicholson, architects and surveyors, Westminster:—

T. Crossley	£647	D. Payne	£630
Arnaud & Son	629	W. Smith (accepted)	589

HELENSBURGH.—For cleaning and improving reservoir, laying pipes, &c., at Helensburgh, N.B., for the Police Commissioners. Mr. James Wilson, Greenock, Engineer. Mr. J. R. Wilson, Burgh Surveyor:—

J. Urquhart	£1,550 0 1	W. Kinloch & Co. ..	£1,242 0 0
R. Gibson	1,478 0 10	W. G. Flett	1,239 2 2
A. Lindsay	1,292 16 0	John Murry	1,232 8 11
Gurscadden & Co.	1,243 17 0	D. Cunningham	967 19 8

JARROW.—For the erection of new central premises and lecture hall, in Market-square and North-street, Jarrow, for the Jarrow and Hebburn Industrial Co-operative Society, Limited. Mr. J. Walter Hanson, architect, Exchange-buildings, South Shields, and 79, Wear-street, Jarrow-on-Tyne:—

J. C. Hope	£6,884 8 6	J. Storrar & Son	£6,432 14 11
W. W. Wylam	6,513 6 0	J. Yeoles	6,379 17 3
W. Kennedy	6,472 18 3	A. Pringle, Cramer Dykes, Stakeford*	6,265 18 2
T. Lumsden	6,466 0 0		
Haswell & Waugh ..	6,453 0 0		

* Accepted.

LLANBRADACH.—For the erection of fifty houses at Llanbradach, for the Wingfield Building Club. Mr. Thos. R. Phillips, architect, Old Bank-chambers, Pontypridd:—
Wm. Thomas & Co., Cardiff* £6,600 0 0
* Accepted at £132 per house.

LONDON.—For the erection of a school to provide accommodation for 980 children on the site in Wellington-road, Barnsbury, and also for the erection of a schoolkeeper's house with a single cookery centre underneath, for the School Board for London. Mr. T. J. Bailey, Architect:—

	If built in cement.		If dressings, &c., in Portland stone in lieu of terra-cotta.
R. E. Nightingale ..	£18,622	....	£18,818 .... £19,018
Pelo Bros.	17,701	....	18,041 18,011
Atherton & Latta ..	17,626	....	17,896 18,046
Dove Bros.	17,607	....	17,960 17,985
Chas. Cox	17,574	....	17,711 17,744
Jno. Mowlem & Co..	17,329	....	17,511 17,596
Killby & Gayford....	16,857	....	17,156 17,156
E. Lawrance & Sons..	16,805	....	17,143* 17,108

* Recommended by the Works Committee for acceptance.

LONDON.—For the erection of a public convenience at Whitehall, S.W., for the united parishes of St. Margaret and St. John, Westminster. Mr. G. R. Wheeler, surveyor:—

Nowell	£1,598 0 0	Neave	£1,448
Gibb & Co.	1,590 9 0	Mowlem & Co.	1,410
Doulton & Co.	1,479 11 6	Holloway Bros.	1,261
Phillips & Son	1,475 10 0	Finch & Co.*	1,175
Nightingale	1,472 0 0		

* Accepted.

LONDON.—For supplying about 7,300 square yards of deal creosoted or Jarrah wood pavement, at North-end-road, Fulham, S.W., for the Vestry of Fulham. Mr. J. F. Norrington, Surveyor to the Vestry, Town-hall, Walham-green:—

	Creosoted Deal.	Jarrah.
Nowell & Robson	£4,950	—
Improved Wood Paving Co.	4,450	£6,650
Tomes & Wimpey	4,350	—
John Fell	4,200	—
Turner & Son	3,990	7,220

LONDON.—For alterations and additions at the "Prince of Wales" public-house, Mare-street, Hackney, for Mr. E. H. Bradley. Mr. W. G. Shoebridge, architect, 158, Strand, W.C.:—

Harris & Wardrop	£1,555	Smith & Appleton	£1,280
Puzey & Lumley	1,480	Lascelles & Co.	1,165
Walker Bros.	1,450	Mower & Son	1,147
J. Anley	1,328	S. Goodall	1,117

LONDON.—Accepted for repairs and alterations at Wickham-place, Tabard-street, Borough, for the trustees of the Randell Estate. Messrs. Waring & Nicholson, architects, 95, Parliament-street, S.W.:—
W. C. Eady, Westgate House, Carlton-road, Kilburn £1,122 5 7
[No competition.]

LONDON.—For the erection of a dwelling-house in Kenilworth-road, Kilburn, for Mr. J. M'Millin. Mr. Reginald G. Wills, architect, 65, Willesden-lane, Kilburn:—

D. & J. Prince	£645 0 0	Coxhead	£390 0 0
R. Barclay	480 0 0	Hy. Tenant	396 0 0
A. Martin	438 0 0	T. Pessell, Kilburn*	394 0 0

* Accepted.

LONDON.—For alterations, &c., to the "Spread Eagle," Morti mer-street, W., for Mrs. M. A. Hudson. Mr. H. I. Newton, architect, 49, Victoria-street, Westminster, S.W.:—
T. Osborn & Son, Lower Thames-street (accepted).. £970 0 0

LONDON.—For alteration to stabling at Stoke Newington, for Messrs. Carter, Paterson, & Co., Limited, under the superintendence of Mr. William Eve, F.S.I., 10, Union-court, Old Broad-street, E.C.:—

J. Holland	£456 0 0	Salt	£406 0 0
Emmett	444 0 0	J. H. Johnson, 785, Commercial-road* ..	392 10 0
Harris & Wardrop ...	430 10 0		
Godfrey & Son	422 0 0		

* Accepted.

LONDON.—For bringing out four shops at front of Nos. 97, 99, 101, and 103, Southgate-road, Hoxton. Mr. W. Hudson, architect:—
R. Mascall ..... £350 | E. Houghton & Son, Stroudgreen (accepted) £484

LONDON.—For the erection of new warehouses, Nos. 4, 6, and 8, Barbes-street, City-road, for Mr. W. Withey. Mr. C. B. Winter, architect:—

E. F. Walesby	£2,200	Chessum & Sons	£1,990
H. L. Holloway	2,193	J. Astley	1,920
G. E. Todd	2,148	Jarvis & Sons	1,900
J. R. Hunt	2,070		

LONDON.—For rebuilding No. 63, Elliott's-row, Southwark, S.E., for Mr. T. Craddock. Messrs. Waring & Nicholson, architects and surveyors, Westminster:—

J. Markland	£675	Wm. Smith	£623
J. F. Ford	667	Canning & Mullens (accepted)	549
T. Lapthorne & Co.	664	F. Warren	545

LONDON.—For rebuilding the "Café de la Paix," 203, Oxford-street, W., for Messrs. Costa & Magri. Mr. Jno. Waldram, C.E., surveyor, 13, Buckingham-street, W.C. Quantities supplied by Mr. P. J. Waldram:—

John Hicks	£2,300	Grover & Son	£2,145
Patman & Fotheringham	2,280	J. Beale	2,050
Bywaters	2,262	Nightingale	2,030

LONDON.—For reconstructing the drainage and ventilation at 22, Lawrence-lane, E.C.:—

H. Cornish & Sons (accepted) £298 0 0

LONDON.—For decorations at 31, Rosary-gardens, Kensington. Messrs. Mackmurdo & Horne, architects:—

S. & S. Dunn (accepted) £220 0 0

LONDON.—For alterations to Lawnswood, Alexandra-road, Upper Norwood, S.E., for Mr. Joseph Wright. Mr. Henry E. Farmer, architect, 25, Angles-road, Streatham, S.W.:—

J. & C. Bowyer	£332 0 0	R. H. Jenkin, Upper Norwood (accepted)	274 0 0
F. Davey	290 10 0		

PLYMOUTH.—For the erection of a warehouse at Plymouth, for the Western Counties' Agricultural Co-operative Association, Limited. Mr. W. F. Marlyn, architect, near Rock, Wadebridge:—

John P. Berry	£1,678 0 0	Wakeham Bros.	£1,397 15 10
W. Trevena	1,418 15 8	[All of Plymouth.]	

SALISBURY.—For building a school at Milford Hill, Salisbury. Messrs. John Harding & Son, architects, 51, Canal, Salisbury:—

J. Tryhood	£4,777 0 0	E. Witt	£4,073 0 0
H. Cooper	4,598 0 0	F. Dibben	4,069 8 4
E. Hale	4,275 0 0	H. J. Kite, Salisbury*	3,960 0 0
Young Bros.	4,227 0 0		
Webb & Co.	4,157 0 0		

* Accepted.

SOUTHAMPTON.—For alterations and repairs at the "Volunteer Arms," Southampton, for Messrs. Eldridge, Pope, & Co. Messrs. W. H. Mitchell, Son, & Gutteridge, architects:—

H. Carden	£235	J. W. Rowland, Southampton (accepted)	£180
T. J. Jukes	206		

SOUTH MOOR.—For the erection of a villa residence, with stabling, &c., at South Moor, near Newcastle-on Tyne, for Dr. R. E. Johnson. Mr. J. Wm. Rounthwaite, architect, 13, St. Cuthbert's-terrace, Blackhill, co. Durham:—

John Jennings	£1,140 0 0	Thos. Forster & Son	£996 16 0
Wm. Surtees	1,119 12 0	J. W. Bolam	989 12 6
Thos. Hilton	1,069 0 0	Jas. D. Carr, Tow Law*	850 0 0
Wm. D. Robson	1,067 9 8		
E. Weatherley	1,019 0 0		

* Accepted.

[Other tenders for separate trades were also received.]

SPALDING.—For additions and alterations to Messrs. Soames & Co.'s brewery, under the superintendence of Messrs. Scamell & Colyer, 18, Great George-street, Westminster, S.W.:—

Contract No. 1: Engineer's Work.

Moreland & Son	£725	Shears & Sons	£449
Thorsewill & Warham	535	Wilson & Co.	397
Pontifex & Wood	450	Waller & Co., London*	382

* Accepted.

Contract No. 2: Boiler.

Horton & Son	£441 0 0
Thornewill & Warham, Burton (accepted)	310 0 0

SUNDERLAND.—For the erection of Cookery Centre at the Moor School, Sunderland, for the Sunderland School Board. Mr. J. W. Rounthwaite, architect, 13, St. Cuthbert's-terrace, Blackhill, co. Durham:—

C. T. Humble	£220	G. H. Hodgson, Sunderland*	£210
D. & J. Ranken	215		

* Accepted.

TUNSTALL.—For metal casements and leaded lights at the Jubilee-buildings, Tunstall. Mr. A. E. Wood, architect, Tunstall:—

Williams & Co., 18, Berners-street, W. (accepted).. £102 16 8

TYNEMOUTH.—For the erection of school buildings at Percy Main, near Tynemouth, for the Tynemouth School Board. Mr. F. R. Haswell, architect, North Shields. Mr. Geo. Connell, surveyor, Grainger-street, Newcastle-on-Tyne:—

	Schools.	House.
J. C. Hope	£3,525 18 6	£672 1 6
John Hutchinson	3,359 10 6	671 3 6
Peter Marshall	3,300 0 0	670 0 0
Gilbert Park	3,192 0 0	677 13 0
R. Bolton	3,134 0 0	647 0 0
N. Ritchie	3,101 7 6	672 18 6
Joseph Howe	3,090 0 0	615 0 0
Geo. Reay & Leighton	3,076 10 0	656 11 6
J. & W. Simpson, North Shields and Blyth (accepted)	3,008 6 0	625 0 0

WEST HAM.—For the construction of about 1,630 yards of brick-lined, concrete, and cast-iron pipe sewers, &c. (Contract No. 10), at West Ham, for the Borough Council. Mr. Lewis Angell, Borough Engineer, Town-hall, West Ham, E.:—

Neave	£10,398 0 0	Bell	£7,682 0 0
Marshall	9,999 0 0	Bottoms	7,578 0 0
Griffiths & Co.	7,715 10 0	Cooke & Co.	7,214 10 0
Adams	7,708 16 3	J. Jackson, Plaistow*	6,895 0 0

* Accepted.

WOKING.—For additions to stabling and enlargement of fernery at "Llampeter," Mount Hermon, Woking, for Mr. T. Jones. Mr. Robert Clamp, architect, Woking:—

George Shears	£245 0 0	Ingram	£195 10 0
Andrew Glew	208 0 0	A. & A. Gale, Woking (accepted)	195 0 0
James Harris & Son	204 0 0		

Re Almshouses, Balderton:—We are asked to state that the name of the accepted tenderer for the above work is not "Hand," as given in our last issue (page 353), but F. Wand. The name was very illegibly written, hence the mistake.

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